

# Desert

AUGUST, 1980 \$1.50

## NEW MEXICO GHOST REAWAKENS

New Clues to  
TUMACACORI'S  
TREASURE

MISSIONS OF CENTRAL BAJA

# RATTLESNAKES!







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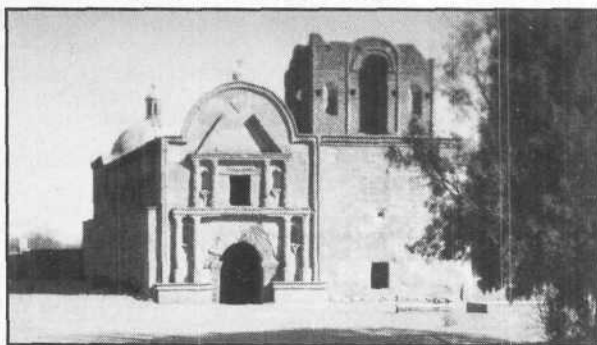
"Oh, for wings like a dove, to fly away and rest! I would fly to far off deserts and stay there."

— Psalms 55:6,7

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A touch of white on an old shack makes it a home once again. Photograph taken in Madrid, New Mexico by David Muench.



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# LETTERS

## PEGLEG SMITH'S NUGGETS

There are two intriguing hypotheses outlined in the lively exchange between Choral Pepper and Don MacDonald (*Desert*, June 1980) giving new points of view for someone interested in searching for the lost Pegleg nuggets. However, I must submit that both are highly improbable.

"Desert varnish" is not formed by copper dioxide from the nuggets themselves. The precious metals in the nuggets protect the copper in solid solution so that it does not preferentially come to the surface as oxide. Rather, the varnish is manganese and iron oxides, plus small amounts of many trace elements. The manganese compounds (and some iron) are brought to the surface by capillary migration and/or migration through films of moisture on the pebbles during infrequent desert rains. Evaporation, oxidation and precipitation take place to create the varnish, and this happens dominantly on the exposed upper surfaces and sides of the pebbles. With rare exceptions this happens only where desert conditions are severe. It does not happen in northern California and thus it is improbable that the Pegleg nuggets originated there.

If the nuggets had been dropped from a mule train in Arizona or Southern California, there would not have been time for them to become coated with desert varnish and so resemble other pebbles. C. B. Hunt in 1971 established that desert varnish in the western U.S. is more than 2,000 years old. In fact, Eliot Blackwelder cited good evidence in 1948 that dark varnish in the Egyptian desert is more than 5,000 years old.

If they were picked up elsewhere in the southwest desert and dropped, it is difficult to imagine *all* of them falling with the heavy coating of desert varnish *up*. Since all accounts seem to agree that the nuggets can be distinguished from the surrounding pebbles only by the difference in weight, it would seem clear that they have been in their present position for 2,000 or more years. In other words, they must be sought by geologic rather than archeologic criteria.

Earl Ingerson  
Austin, Texas

## OTHERS WERE THERE FIRST

I see (*Desert*, May 1980) that the story of Boulder Flats has at last been told, and I must say that the article and pictures were interesting and well done.

Back in 1969 I explored Boulder Flat and

I made a 16 mm sound film on the site which I titled "Lost for a Hundred Years." In spite of pleas of former editors of *Desert* I would not write an article about the site since it has been my experience that once a place is known, vandals quickly destroy it.

However, since the site is now public information, I wish for the record to give Lee Simmons, Curator of the Mono County Museum in Bridgeport, Calif., credit for "re-discovering" the town. It was he in July, 1969 who led us up the steep and dangerous trail to Boulder Flat so we could make our movie. If readers contact me, I may be willing to rent this one-of-a-kind film, which is in color, for showing to interested audiences.

Jay Clark  
Hanford, Calif.

Those wishing to show this film may write Mr. Clark at 1000 E. Myrtle St. in Hanford.

## BAJA PRO AND CON

I just finished your April 1980 issue with its articles on Baja. About five years ago we along with a group of friends from here made the trek down through Calexico and into Baja. We spent a number of days in San Felipe and enjoyed it immensely. At that time the Clam Man had a spot on the busiest corner in town; chanting "Don't forget the Clam Man," he was the center of attraction. Then we pushed further south to Puertocitos where we camped for about a week and enjoyed the hot natural baths and the cooking at Caesar's. The beauty of Baja captivated us and since then, we have gone back five times, always enjoying good food and excellent hospitality.

San Felipe has grown and changed so much during this short period of time that it is amazing. Even an airport! In a way it is sad. For those like us who have to travel so far, Baja is the last frontier. I hope you don't entice too many more tourists, for Baja is beautiful the way it is.

R. B. Hayward  
Provo, Utah

We traveled across Baja east from Ensenada to San Felipe and saw nothing but dirt, rocks and in the middle of it all, the poverty of Valle de Trinidad, an agricultural area which was the only beauty spot in 160 miles.

We stayed in a trailer camp owned by the chief of police. It was 94 degrees in and out of the ocean and the humidity was unbearable. Whenever we used the bathroom or shower, one of us had to stand guard or someone (native) would peek in. We saw nothing beautiful in San

Felipe. Why is it no one ever writes about the seamy side of vacation spots?

Lillian Dudicz  
Hayward, Calif.  
You just did.

## LEST WE FORGET

Altho your June 1980 issue of *Desert* boggled these weary old eyes with its magnificence, the hole thang went thunk when I coodn't low-cate the Bible quotation. Tsk, Tsk, my dear Mr. Mac, we mussn't fergit our 'umble beginnins and from whence all good thangs cum. *Mimie Contretemps*  
*Truth & Consequences, N.M.*  
We ain't fergettin, Minnie. Them quotes jst got left out one month by an errant art director.

## RENO'S STILL BOOMING ALONG

There's a bit of misinformation in your June (1980) issue about casino closings in Reno. Your first line is "The Money Tree has dried up..." to which I'm sure Charley Mapes would take issue. Only the newly renovated portion on West 2nd at Sierra has closed. Secondly you state that "two other downtown casinos have closed in recent weeks..." and again you are a bit off, to wit:

All of our local closings happened last year, and there are only two downtown, the second being the Horseshoe almost next-door to the Moneytree. Our other closing was a new kid up the block, name of Claimstake, in Sparks which is several miles from downtown Reno. Believe me when I say that Sparksites *do not* consider themselves citizens of Reno. You now stand corrected. If you should be in our area, by all means stop by and say howdy, we'll be glad to show you some boom-town hospitality.

Kirt R. Harmon  
Reno, Nev.

## APOLITICAL

*Desert* Magazine reflects a growing concern for ecological adventures and utilization of one's appreciation of our natural resources. Let us save "political views and quotable quotes" for gossip magazines and continue to present informative, historical insights to the silent majority of *Desert* adventurers. Your magazine has long been a standard reference source for my students.

Dr. Guy D. Mazza  
Stanford, Calif.

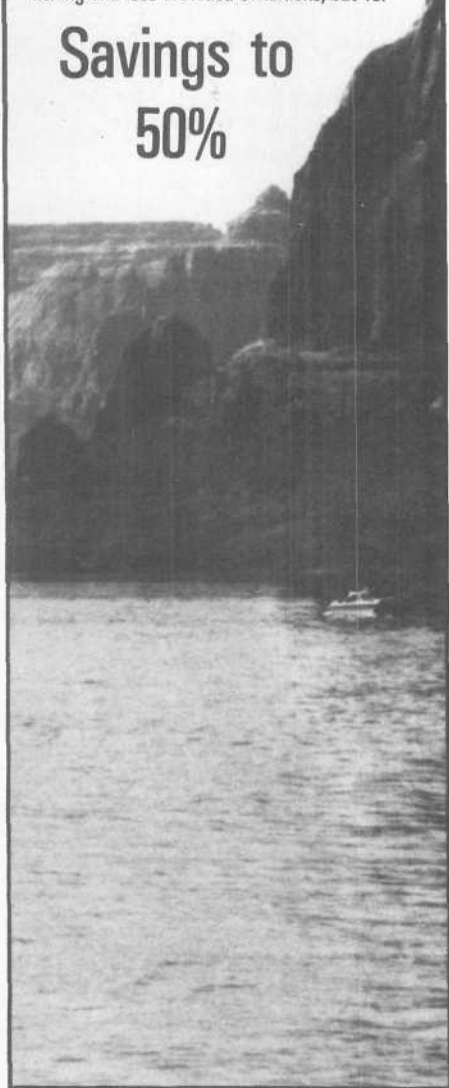


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## EDITORIAL

### BEAUTY IS IN THE EYE OF THE BEHOLDER

The two thoughtful letters from readers Hayward and Dudicz you'll see on page 5 of this issue present diametrical reactions to a few days spent by each individual in San Felipe. Both impressions are equally valid and both deserved their airing. However, Hayward and Dudicz judged *all* of Baja from visits to a single area.

Baja in truth is a land of contrasts and what seems seamy to one may be beautiful to another. It is a land of infinite variety but others see only sameness, a conflict typical among visitors to deserts everywhere. And what seemed to have been rude ogling may derive from no more than the curiosity of a child.

For the people of Baja, in their infinite variety, share in some childlike qualities. Away from the few major cities, there is no television and few telephones. What may seem to a visitor to be abject poverty and therefore, unhappiness, often obscures a wholesomeness unknown to North Americans. A dirt floor is dirty to us; to a Mexican, it is clean when it is swept as it constantly is.

Look at the children on the way to school, squeaky clean in body and clothes. And also in soul as are, for the most part, their mothers and fathers. Drop something of value from your car as you pass. Try this. Some child will run after you for a mile so as to return it. As will their parents.

Meet a "poor" Mexican family and accept the invitation to visit their home. Realize a jar of Nescafe has cost more than a day's wages but you will be offered coffee, and good conversation about simple things such as the quality of the fish in yesterday's catch or the health of a baby new to a neighbor.

The man may look at your car and ask you with directness how much it cost. Do not be offended; he simply is curious to know, and it is a curiosity without envy for he has little use for such a car. He has accepted where he is in life. Have you?

Mexicans are proud, whatever their station. And they are sensitive. This is not a defensive sensitivity. They accept you. They wonder if you will accept them and should you not, they have no wish to be bruised.

Recently one of the vehicles in our party entered some road construction with too much speed and the jouncing knocked the battery from its mount. The battery while falling severed its ground cable and the car died.

Before the others ahead could return to the scene, some Mexican teenagers had stopped, diagnosed the problem, and with switchblade in hand, were regrounding the

cable. It never occurred to them that the knife might seem ominous, to us. And when offered payment for their trouble, they refused. When offered money with which to buy some beer, they accepted.

Mexicans are not lazy. Those gleaming clothes on the children were whitened on a washboard at home. The one-room house was built by its owner. The fence of dried ocotillo was gathered piece by piece from miles away. *Manana* as is commonly supposed does not mean "tomorrow" to them; it means "I will do it but not now."

I have a friend in San Felipe named Freddy and he is troubled. He had spent a few months at a college in California and then returned to his town. There he is the headwater and sometimes manager of a restaurant where the tourists eat and he married and has three children.

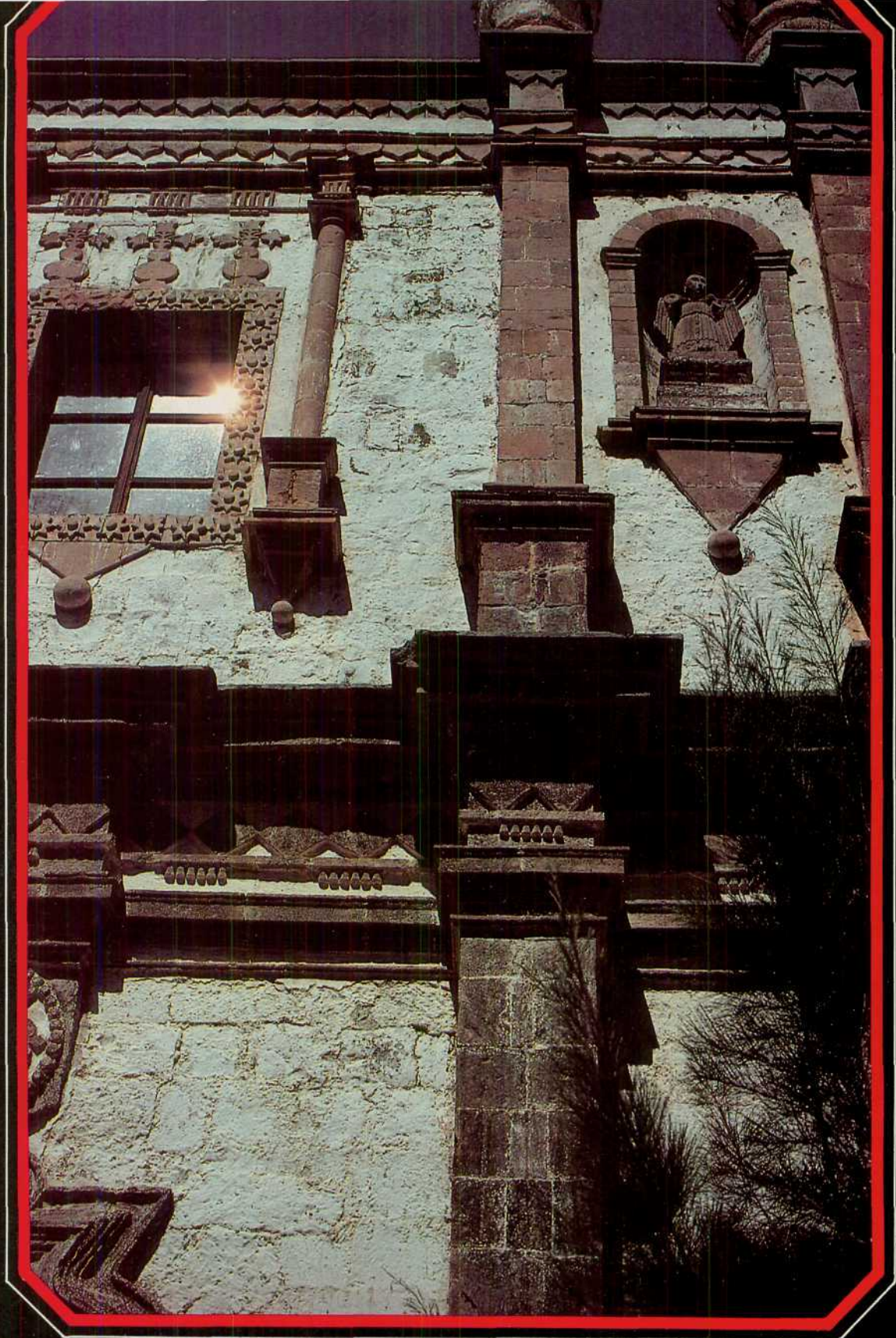
His exposure to our way of life made him aware of poverty even though he is far from poor by San Felipe standards. It has made him ambitious and discontented and I am sure that someday he will "succeed," whether it be in San Felipe or, perhaps, up here. But he is unhappy because he has seen and compared. And the more he serves the tourists, the further away seem his dreams. Envy has entered his relationships with visitors. It is ironic, for I envy him the chance to live in San Felipe.

So when you go there or anywhere else in the "other Mexico," pity the Freddies who have been contaminated with our way and envy the vast majority who haven't. They are truly happy and it is contagious!

*Don Mac Donald*

**NOTICE:** Most of our subscribers recently received a letter from us suggesting they renew at a special \$9.00 (\$17.00 for two years) rate. A heart-warming number took advantage of this offer, and for that we thank you, but there was some question about the Goleta, Calif., return address on the envelope. You'll see that sometimes and also, P.O. Box 28816 in San Diego 92128. It's because we've moved our subscription service to those locations where there are computers which can handle the ever-growing volume. But there are also people, as before, and they're ready to help you with any subscription problem. Just write to **Desert** at the San Diego address. You'll get a prompt, personal reply.





# *The* MISSIONS of CENTRAL BAJA



## by Jane Eppinga

As the Diaz Ordaz ferryboat inched its way into Santa Rosalia's harbor, we entered *El Otro* Mexico. Even natives call Baja California the other Mexico. This harsh, beautiful country is little changed since the Spanish padres founded their missions here over 300 years ago. The priests settled where Indians had congregated along the rivers near arable land. Now Father Charles Polzer was taking a study group into Baja, and those who weren't seasoned Baja types before the trip were certainly so afterwards.

After disembarking, we drove to Mulege and registered at the Hotel Presidente. Some years ago with the opening of the Transpeninsular Highway, the Mexican government figured that Baja's tourist business would boom so they built the string of El Presidentes. But business did not meet their expectations so as a result, some of these hotels have fallen into disrepair. Still, they are relatively inexpensive and comfortable. Jorge Yee, a camp cook for Erle Stanley Gardner when he travelled in Baja served us a delicious seafood platter. The next morning our journey to the missions of Central Baja began.

### *The* CHURCH of SANTA ROSALIA de MULEGE

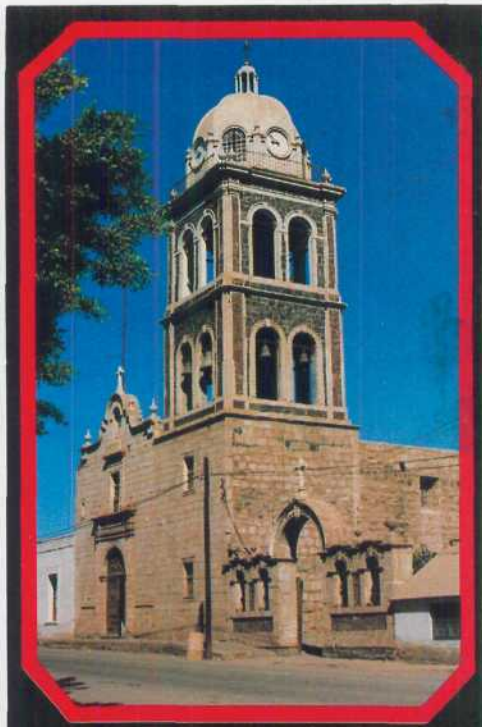
In August of 1704, Padres Francisco Piccolo and Manuel Basauldna, with the guidance of some friendly Indians, entered Mulege estuary and founded a mission approximately where the present church stands. They employed Christian Cochimis to further the faith. A blind man Andres Sestiaga took charge of the mission and Bernardo Adaba was named governor.

The present church was completed around 1766 by Padre Escalante. Some restorations are obvious but it is still a lovely church. The stonework character preserves the feeling of originality.

### NUESTRO VIRGEN de LORETO

Fathers Salvatierra and Piccolo built a small provisional chapel at Loreto in 1697. Then they carried the image of Nuestra Virgen de Loreto from the ships and placed it before the mission door. The soldiers took possession of the land in the name of the King of Spain. After a few hostilities, the Jesuits gained the Indians' trust and built more permanent structures from rocks quarried in the area.

The present mission, dating from 1699, has been extensively restored through the efforts of Padre Sanchez Mayon. Some years ago he won a lottery premium and was able to provide the church with a new bell tower and make extensive repairs.

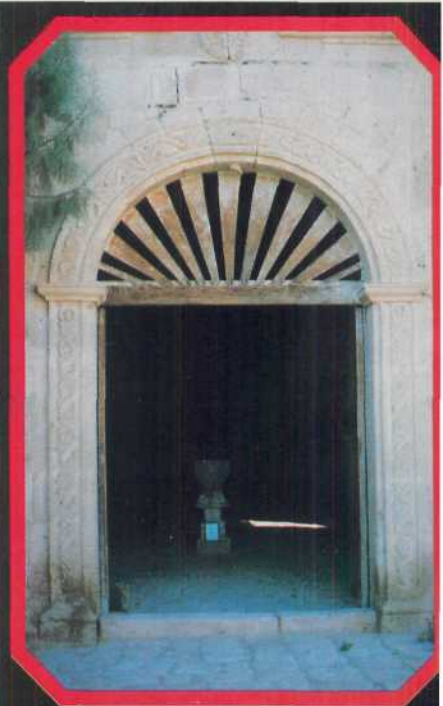


*The church of Loreto  
faces the town square,  
still forces a strict dress  
code on visitors.*



*The General's house,  
built from materials  
commandeered from  
San Miguel-Comandu,  
is said to be haunted.*

*The mission  
complex at  
Mulege sits  
within sight of  
the better  
known men's  
prison in the  
same town.*



*San Borja today lacks a  
full-time priest and is  
beginning to fall into  
disrepair.*

*San Javier, one of the  
most active of the  
missions under Padre  
Miguel del Barco, is still  
in use today.*





Inside there is a lovely gilded *retablo*, some original alabaster fonts and interesting oil paintings.

## SAN JUAN

### BAUTISTA *de* LONDO

This Jesuit outpost was founded in 1699 by Padre Salvatierra. By 1745 there were no people and no missionaries, and so it was abolished as a mission.

The Cochimi Indians of this area were perhaps among the most rebellious. Although Salvatierra succeeded in establishing a church, on at least one occasion he was personally attacked. A wall, restored by a local priest, and some ruins are all that remain of Londo.

## SAN BRUNO

Although San Bruno is deserted with only some weathered foundation rocks, it once marked the germination for the seeds of faith in New Spain. Here the great Sonoran missionary, Padre Eusebio Kino, founded his first mission on October 6, 1685. With Father Gogni, Kino made excellent progress with the Indians, but capricious weather destroyed their crops and after a year they were forced to leave.

## SAN FRANCISCO JAVIER *de* VIGGE BIAUNDO

Weaving through the Arroyo de los Parras, a sparsely inhabited region dotted with goat ranches, you will come upon San Francisco Javier de Vigge Biaundo, which was founded in 1699 by Padre Piccolo. The present church was completed in 1759 and its stone architecture is among the most beautiful in Mexico. The cross of the ecclesiastical court marks the entrance to the town and leads to the church.

The cool snowy white interior cannot fail to impress. The fonts, one of alabaster, the other of native volcanic rock, reflect the irregular architectural shapes. The primitive character of missions such as San Javier is a result of utilization of solid natural forms which are distinguished by their charming simplicity. Even San Javier's arched roof is of decorated stonework. The gilded *retablos* which came from Spain are especially beautiful.

Because of friendly Indians and a land which could be irrigated by a nearby stream, Father Piccolo decided to found this mission. Salvatierra dedicated the church to San Francisco Javier on November 1, 1699. In 1701 Padre Juan de Ugarte took charge and remained here til his death in 1730. Ugarte was the type of man of whom legends are made. He is said to have been so disgusted with the local worship of the mountain lion, that he slew and ate one of them to disprove the cat's omnipotence.

Ugarte introduced sheep and goats and planted cotton and olive trees, which are forerunners of the plants in the area today. He also built a hospital and home for the aged. From 1741 to 1768, San Javier was

under Padre Miguel del Barco. It is to him that we owe a debt for the extensive flora and fauna documentation. Ancient aqueducts which even preceded the padres are still in use.

## SAN JUAN

### BAUTISTA *de* MALIBAT

1703 was a hard year for Baja's missionaries, who were constantly besieged by hostile Indians but eventually, Spanish soldiers captured the ringleaders and hanged them over the protests of the padres.

Salvatierra took advantage of the ensuing peace to explore inland. Accompanied by Padre Ugarte's brother Pedro, he visited Liguí (San Juan Bautista de Malibat). Several children were brought for baptism. All that remains of the chapel founded in 1704 is a ring of foundation stones around a large mesquite tree. This may have been the original chapel.

## The MISSION of COMANDU

The Valley of the Stones or Comandu near Villa Isurgentes and Pancho Villa contains three villages — San Jose, San Miguel and Viejo. About 1920 in San Miguel a Mexican general tore down the church to obtain material to build himself a fine house. Legend has it that the house became haunted and the general was forced to flee. Today, one can wander through the house which has fallen into disrepair and wonder what ghosts still lurk in its corners.

The original Comandu Mission at San Jose was built in 1708 by Padre Julian Mallorga who also built schools, a hospital and introduced citrus, grapes and sugar cane. Several churches were built and destroyed. In 1737 Padre Wagner built the church which was probably the one razed by the Mexican general. The only original parts of San Jose's churches are a small chapel, an alabaster pedestal, some paintings and bells.

On the treacherous road to El Horno, you will find an old lime kiln which is probably the one used in the construction of the original mission.

Perhaps the people of Comandu have not been strongly tied to the original structural design in the rebuilding of their church, but at least they were faithful to the spirit of the pioneer missionaries. They are a people proud of their church and its place in history.

## The RUINS of La PURISIMA

The drive through La Purisima Valley brings you to the ruins of La Purisima. The village of La Purisima Concepcion can give a feeling of sadness and despair. With fertile land and plenty of water, it should be at least as well off as Comandu but the people seem to have given up.

However, La Purisima Concepcion is not

*Perhaps the gem of Baja's missions will be found in certainly the loveliest of Baja towns, San Ignacio*

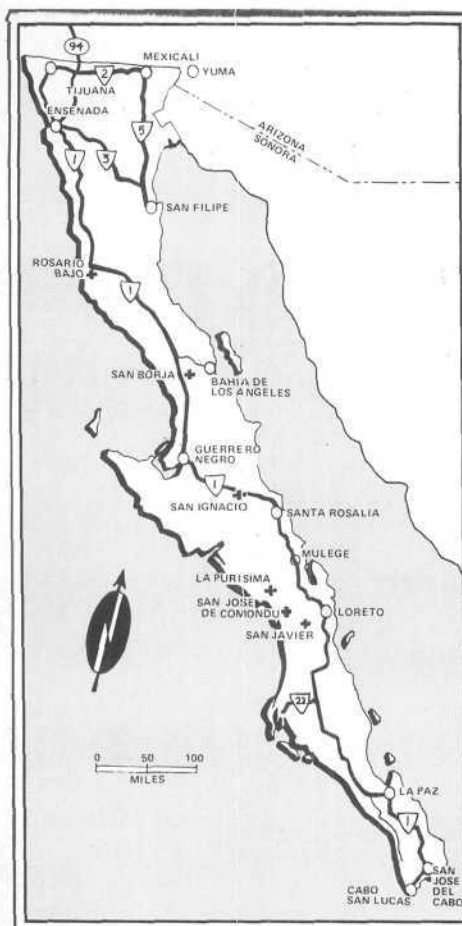
THREINEN











*Loreto (opposite page) is the "Mother" of California missions. Ruins (below) are La Purisima, (lower right) Londo, and (right) Rosario Baja.*



without historical significance. Padre Piccolo selected this spot for a mission and called it La Purisima Concepcion de Maria Cadgomo after a nearby ranch. Local Indians begged him to stay and he requested a missionary for this area. But it would be 1717 before one would arrive. In the meantime the Indians had to content themselves with Piccolo's frequent visits.

In March of 1717 young Padre Nicolas Tamaral arrived in Loreto with a letter requesting Salvatierra's presence in Mexico City. The journey proved too strenuous for the old priest and he died when he reached Guadalajara. But Father Tamaral did not sit idle. He opened trails from Comandú and Mulege to Purisima. In Purisima he planted grain and citrus and began building a church. At one point his congregation numbered over 2,000. All that remains is a profusion of palm trees, some adobe walls, an above ground sarcophagi and a despondent village.

## SAÑ IGNACIO de KAADEKAMEN

Tired, dusty travellers may sometimes discover there is no water at the El Presidente, but the management will assure you that all will be wet as soon as the pumps are running. Pretty soon there will be a trickle of cold water and the wiser ones will grab a shower. You'll be told there will be hot water in a couple of hours but the pumps may burn out and once again, there will be no water.

A dip in the pool, margaritas, and a

delicious lunch, however, will revive spirits and help you find the energy and enthusiasm to attend Father Charlie's Mass at one of Baja's most beautiful missions, San Ignacio de Kaadekamen.

The Oasis of San Ignacio is situated near the arroyo Carrizal in the Sierra de San Vicente. Padre Juan Loyando founded the mission in 1728 and the present church was built later by Padre Consag. It is remarkably well-preserved and the interior possesses three gilded *retablos* from Spain.

In the early 1700's Padre Piccolo received petitions from the Indians of Kadda-Kaamen for a missionary. He sent Padre Loyando and by 1728, Easter services were celebrated in the new church. Crops were planted and sheep and cattle were introduced. But four hard years of labor broke Loyando's health and he was forced to retire. Padres Sestiaga, Taravel and Consag.

## The MISSION of SAN BORJA

Twenty-two miles of tortuous dirt road will take you to San Francisco de Borja Adac, through the Boojum tree forest. A distant relative of the ocotillo, also known as cirio, this is the only place in the world to which this plant is native.

In 1759 an Austrian, Padre Wenceslao Linck, founded the San Borja Mission. In his time he converted over 1,500 Indians and built a mission house and a hospital. Linck named the church after Maria Borja,


Duchess of Gandia, who had bequeathed a large sum of money to found three missions on the Baja peninsula. The figs, olives, grapes, and dates of today were originally introduced by Padre Linck.

After the Jesuit expulsion, Fray Fermin Francisco Lasuen took over this wealthy mission. On June 12, 1773 it was conveyed to the Dominicans, Padres Manuel Garcia and Jose Aibar. Today five families live in the immediate mission area and their names date back to the Spanish conquest of Baja.

The exterior of the church is in good condition but some of the rooms have been burned out from campfires, and cattle are herded through the church yard. Mass is said from time to time in the chapel by priests passing through the area.

## A FINAL STOP

The churches of Rosario Arriba and Rosario Abajo were founded in 1774 by the Dominicans. All that remains is an adobe arch and a corner niche. The original bells, dated 1738 and 1706, have been transferred to the new chapel's bell tower.

Baja is a step back in time. Customs have not changed. On still evenings you can hear the tinkle of goat bells in the mountains. Mules or burros still turn the wheel which grinds the juice from the sugar cane. The stars shine down on you with the same intensity as they did upon the padres. Standing alone in the empty mission, you feel that 300 years have accomplished little and that is good. It is *El Otro Mexico*. You go home refreshed. 



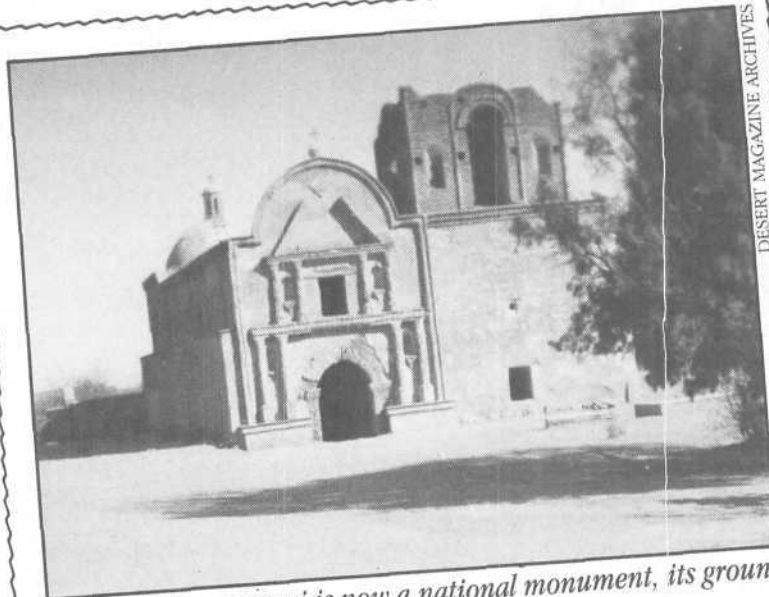
# THE LOST TREASURE OF TUMACACORI

by Choral Pepper

One of the more persistent legends to attract fortune seekers has been the tale of the Tumacacori Mission treasure in southeastern Arizona. The most commonly accepted version of the story places a vast treasure within the walls of a Tumacacori mission, the treasure being abandoned by the Jesuit missionaries when a Spanish king thought they were garnering riches for themselves and expelled the order from New Spain.

To reinforce the legend, there were two Tumacacori missions, and possibly a third that truly is lost. One is now a national monument, San Jose de Tumacacori, with pockmarked grounds bearing mute witness to constant attack by treasure seekers. The other is less well known, Tumacacori de San Cayetano, a structure which has deteriorated into a few barely noticeable humps of adobe. The third is so lost that it bears no special identification.

There have been at least as many people searching for the lost treasure of the Tumacacori Mission as there have been prospectors futilely chasing a rainbow to the elusive Lost Dutchman Mine in Arizona's Superstition Mountains. Yet recently discovered evidence indicates that the treasure of the Tumacacori Mission may be "mission impossible." While the lost mission remains lost, evidence of treasure actually exists. A cache with a reported value of more than \$45 million is hidden in the shafts of a series of separate old mines in the Tumacacori Mountains. Even more exciting, the new evidence indicates that the discovery of any *one* of the old mines will set off a chain reaction by providing a waybill to each of the others, for they are linked together in the words of an old Spanish document, called a *derrotero*.



DESERT MAGAZINE ARCHIVES

*San Jose de Tumacacori is now a national monument, its grounds pockmarked by misdirected seekers of the lost treasure.*

The evidence first came to light in the spring of 1889 with the arrival in Tucson of a priest from Spain. He rode into town on horseback and immediately asked for directions to the court house.

When he was introduced to Judge Bill Barnes there, he explained in English that his superiors in a monastery in Spain had sent him to Tucson to retrieve a chest that "contained some old church records." These records had been buried somewhere in the Tumacacori Mountains during an Indian insurrection that took place when the Spanish were settling this part of the New World.

The stranger carried with him a document titled the *Derrotero de Tumacacori* that described where the chest was buried. Being unfamiliar with the

country, the priest was unable to locate the landmarks described in the document. Could Judge Barnes recommend someone who was familiar with the area and who would be willing to act as a guide?

Judge Barnes smelled treasure. The legend of the Tumacacori Mission treasure had been floating around Arizona for a long time. The Judge hastened to assure the good man of the cloth that he did indeed know of such a person. Himself.

The stories of the relationship between the opportunistic judge, his friends, and the mysterious priest, vary. The one told by Judge Barnes until the day he died contends that in spite of their better judgement, he and some unidentified rancher friends accompanied the priest into the Tumacacori range. Legend always had placed the Tumacacori treasure in the Coronado range east of the Santa Cruz



River, near the ruins of the Tumacacori Mission. The Arizonians were perplexed when the priest insisted upon focusing his search west of the river, into the unfriendly Tumacacori mountain range.

Consequently, they were not surprised that he recovered nothing more valuable than the old chest of papers that he purportedly sought. Before disbanding, the ranchers concluded that the priest did, indeed, appear to be solely interested in old church records. They immediately lost interest.

All, that is, except the canny judge. He had glanced at the *derrotero* earlier in his office. Although the language of the document was an archaic Spanish that he

Tumacacori mission history as it had been legitimately recorded.

For example, the translations began by stating that between the years 1548 and 1648 a mine called the Virgin of Guadalupe belonged to the Tumacacori. Curiously, however, the earliest known Tumacacori mission, Tumacacori de San Cayetano, was not established until 1698, while the present San Jose de Tumacacori, now a national monument, was not completed until the early 1800s.

Furthermore, Padre Eusebio Kino, the Jesuit priest credited with founding the first mission in Arizona, did not even arrive there until a half-century after the Tumacacori treasure had been concealed,

present Tumacacori Mission, accompanied by a documentary television crew and the manufacturer of a leading electronic metal detector. More than \$10,000 was spent in triple-triangulated aerial surveys, helium balloons and sophisticated electronic gadgets for detecting metal both from the air and on the ground.

This search, as so many before it, was inspired by a copy of one of the *derroteros* derived from Judge Barnes' translations. Such copies are not hard to come by. Each of the three original translators made copies for himself which his heirs re-copied and passed on to their heirs. A number of them have been published over the years, and no two are exactly alike.

Members of the 1974 syndicate are still silent about the details of their adventure, but it is known that they found no treasure. And no wonder. Like so many before them, they searched in the wrong place!

**I**t was a California school teacher named Michael Ford who produced the clue that convinced me that the Tumacacori treasure, and the *derrotero* that leads to it, is not a fraud.

Ford had taken a sabbatical to research early Spanish mission records in Arizona. During advance work in California, he had run across a copy of a translation of the *Derrotero de Tumacacori* that someone had left between the pages of an historical book long out of print. Judging from its precise script and faded ink, Ford guessed it to be relatively old.

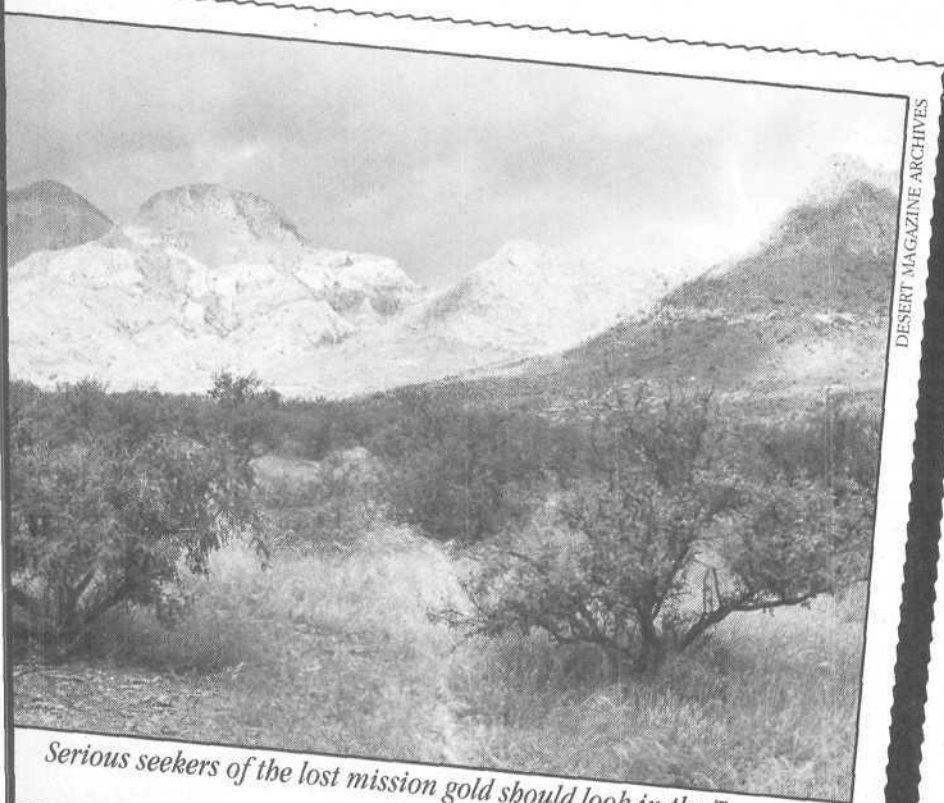
Upon studying it, he was disappointed to find that although its title contained the word "Tumacacori," it had nothing to do with the old mission. Nevertheless, he shoved the loose pages into his briefcase and later put them in his file at home.

There they remained, forgotten, until he happened to read a story in *Desert Magazine* about the fabled Tumacacori Mission treasure. Since his route from Los Angeles to Tucson passed through Palm Desert, he decided to stop by my office to set me straight. At that time, I was editor of the magazine.

As a serious historian, he scoffed at the notion that Jesuits had left any mission treasure at Tumacacori. To emphasize his point, he produced the translated version of the *derrotero* that he had found and explained that the discrepancy between its dates and the actual date that the Jesuits founded the first mission in Arizona made the treasure legend impossible.

Although his theory made sense, I argued that the word "Tumacacori" originated with the Indians, rather than with the Spanish missionaries. Long before the Spanish had arrived in Arizona, it had been the name of both an Indian village and a mountain range. The Spanish had adopted it for the mission because Indians from the Tumacacori village attended the mission.

I also was aware of the Judge Barnes' account of how the *derrotero* was introduced to Tucson, and that a number of



DESERT MAGAZINE ARCHIVES

*Serious seekers of the lost mission gold should look in the Tumacacori Mountains west of the Santa Cruz River.*

could not translate, he had a hunch that there was more to it than directions to a single chest.

Before departing Tucson, the priest shuffled through the records in the chest to satisfy himself that they fulfilled his assigned mission. He then presented the *derrotero* to the judge as a souvenir. He never was heard of again.

Such was not the case of the *derrotero*.

**W**ithin a few days the Judge found three educated Mexicans of pure Spanish ancestry who agreed to attempt translation of the archaic Spanish document. Working separately, each came up with a different version. The only things the translations had in common was that they contained instructions for finding a series of vast treasures, and each one quoted dates incompatible with

according to the dates of the *derrotero*.

It is not strange that Judge Barnes' translators identified the Tumacacori treasure described in the *derrotero* with the Tumacacori mission, however. By inserting the word "mission" after the word "Tumacacori" they simply were lending credibility to their translations. After all, everyone in Tucson was familiar with Tumacacori mission ruins rotting away on the outskirts of the city. Published historical data that might have alerted them to the incongruity of the dates was not commonly available in those days.

In spite of this obvious inconsistency, treasure hunters today are still conducting expeditions into the rugged terrain east of the Santa Cruz. In 1974, for example, a syndicate led by two major shareholders from Idaho launched a sophisticated treasure hunt almost within sight of the



versions of it had been published.

These facts, previously unknown to Ford, piqued his interest. He promised to look up the other versions of the *derrotero* when he arrived in Tucson, and see how they compared with his own.

Hardly a week had passed before I heard from him. The primary difference between his version and the others was that they referred to Tumacacori as a mission and his referred to it as a mine. This struck him as important. Theoretically, it provided an explanation for the inconsistency in dates. The mines were there before the missions. Treasure hunters of the past had made their mistakes by attempting to follow directions stated in the *derroteros*, using one of the two known Jesuit Tumacacori missions as a starting point. This obviously had been the wrong approach. The missions, named for the Tumacacori Indians lay in the Coronado range. The treasure lies in the Tumacacori range.

The more Ford labored over the confusing document, the more convinced he became that it was a preliminary, word-by-word translation, made before its amateur translator had begun to embellish the document with interpretations of his own. If that were true, it could be more accurate than the others.

Meanwhile, I started some research of my own. This produced evidence that Spanish *conquistadores* were in Arizona as early as 1590, a date that fell well within the *derrotero's* account of mines worked between 1548 and 1648. Moreover, while those early Spanish colonizers were exploiting the wealth of the land with Indian slave labor, they were supporting a small number of friars of the Franciscan order to administer to their religious needs.

The most exciting revelation arose when I came across a partially translated memoir of a Spanish soldier named Ramon Martinez that appeared in an old historical journal.

Here is the story:

Having started north with D. Juan de Ornat's army of 800 men in 1596, Martinez became entranced one night with an old soldier's campfire story. The veteran warrior claimed to have guarded a supply train that was taken up the west coast of Mexico some years earlier to a rich mine worked illegally by a company of Spaniards. A born opportunist, Martinez quickly realized that any plunder he might come upon with Ornat's army would have to be divided some 800 times. It would be more rewarding, he figured, to persuade several comrades to steal away from the army and join him at a rendezvous they had passed earlier on their trail. They then could work their way westward into what now is Arizona, overcome the mine owners described by the old soldier, and claim their riches for themselves.

After much hardship at the hands of Indians, only Martinez lived to reach the green valley fringed by foothills that the old soldier had described. By this time,

however, he had shed his dreams of plunder. All he desired now was to be welcomed as a friend.

In his journal he described attending his first mass at *Tumacacori de Cerritas*, a church near the mine. There he was absolved of his sins and assured by the priest that his miraculous survival indicated that it was God's will that he be spared.

This is the earliest mention of a church located at, and named for, the Tumacacori mountain range. Its priest would have been a Franciscan, not a Jesuit, and the church was a chapel rather than a mission. This convinced me that Ford was right, that the Tumacacori in the *derrotero* was a mine located in the Tumacacori Mountains and that the Franciscan chapel adjacent to the mine gave birth to the legend of the Tumacacori treasure that was passed on by Indian slaves. The Spanish traditionally instilled fear in their slaves of ever betraying the storage places of "God's gold."

**F**ord's *derrotero* describes six mines, giving the distances in Spanish *varas* and *leagues* of one from the other. It also gives geological descriptions which are clues. For example, the silver of a mine called the Opetá is described as being in a lime contact which eventually cuts into pure silver.

This could be an area in the Tumacacori Mountains about fifteen miles west of Nogales where the caliche is a lime contact that hosts silver. It is shown on modern maps as an extension of the Pajarito Mountains of the Atasa range. Here, in a caliche outcrop in a pass between the Pajaritos and El Ruido is a likely place to start looking for the Opetá Mine described in the *derrotero*.

Once that one is found, or any of the others for that matter, the *derrotero* gives directions from each mine to the others. They will not be found easily, however. There are no roads, only blind trails that wind through a confused mass of rocky crags, peaks and flat-topped bluffs with vertical sides and steep dykes. Gold and silver veins are numerous, with placer gold collected in canyons, but it is hard to find it under the tangled covering of oak, juniper and manzanita.

One league north of the Opetá, according to the *derrotero*, is the Tumacacori mine. In it lies a key to all of the others, for this mine, marked by the letters "PSR," and dated the 8th day of February, 1548, contains a covered box. In one corner of the box is a screw. You take out the screw and there is an iron bar. Pull out the bar and open the box. In it are all the maps of the great treasures of Tumacacori!

Each a league-and-a-half in opposite directions from the Opetá, lie two mines called the Virgin of Guadalupe and the Pure Conception. Guadalupe holds 2,050 bars of stamped silver and others of gold, amounting to a value of \$45,000,000 at the

time the *derrotero* was translated in 1889. The Conception is host to from three to five cartloads of virgin silver in slabs.

More slabs of silver are stored in the San Pedro mine located one league from the Guadalupe mine.

The sixth mine, San Isabel, lies one league from the San Pedro, but the *derrotero* neglects to give an inventory as to what is stashed in it.

Some of these mines doubtlessly have been found, but the great treasures in the Guadalupe and Tumacacori remain unclaimed. That is, unless the church records gathered by the priest from Spain were the treasure maps of the Tumacacori.

**I**n 1874 an engineer named Hiram C. Hodge came out to Arizona Territory to make a study of Tucson's early mining and mission history. In writing of a mine 75 miles southwest of Tucson, he described another one six miles south of it that he simply called "Old Mine." He believed it to have been worked long before Jesuit fathers arrived.

A few miles south of it were the historic Plachas de Plata mines of Sonora, Mexico, with their solid planks of pure silver. And onward into the Oro Blanco range that winds across the high mesa to the southwest of Arivaca on the Arizona side of the border, Hodge described the old Austerlitz mine. It was here in 1870 that miners found indications of much earlier work, including drill holes of an archaic type four inches square along with primitive tools, human skeletons, and two rawhide bags filled with silver ore that assayed to \$4,000 per ton. These are all in the area of the Tumacacori range.

It is believed that even if the priest did retrieve the treasure maps, an expedition from Spain carrying enough equipment to exploit the area would not have passed unnoticed. If not all, at least some of the Tumacacori treasure must still await a finder astute enough to disassociate the legend from the mission. **[2]**





## THE FISCHER SUN COOKER

As Americans increasingly take a more serious look at solar alternatives to provide our energy needs, the well-designed Fischer Sun Cooker wins mention in this first of what will be a continuing series on meritorious new products of interest and use to *Desert* readers.

Solar cooking is both new and old. Undoubtedly more than one caveperson inadvertently left a dinosaur egg or two out in the sun on a summer day and returned to find it baked. And Baja buffs commonly fry chicken eggs on the hoods of their Jeeps. However, these accidents and expedients never seriously threatened Ronald Reagan's former job with General Electric.

What's new about the Fischer Sun Cooker — invented, manufactured, packaged and shipped by Guy Fischer from his garage in Redwood City, California — is that it's the first, as far as we know, to combine a parabolic concentrator and a self-contained oven.

The \$77 (at this writing), 17-pound cooker consists of a four square foot parabolic collector and a 440 cubic inch (same displacement as Chrysler's biggest engine) oven with a transparent plastic bottom to allow the reflected rays to enter. The whole cooker folds flat with its four wooden legs for storage and carrying.

On a 70 degree day, the cooker is claimed to be as efficient as a conventional gas range. Temperature of from 100 to 500 degrees inside the oven can be regulated by focusing the sun's rays slightly off center. Don't, however, expect automatic control. You'll need a thermometer to either hang in the oven or to stick in the food.

The commonly available absorption or "heat storage" ovens can reach 250 degrees easily and up to 400 degrees under ideal conditions but it usually takes about an hour to reach cooking temperature and every time you open this type of oven to worry or stir or add or remove the food, you lose much of the heat you've stored.

Reflective ovens, also available from other sources, reach cooking temperatures quite quickly and you can fiddle with the food as much as you want without losing significant heat. The Fischer Cooker combines both the heat storage and reflective principles for peak efficiency.

Solar cooking of any kind obviously will change the nation's eating habits if it

becomes common, as it well could if the three-martini lunch types at the Department of Energy in Washington ever hear about it and make it mandatory. You'll have to eat all your hot meals during the day and do without when it's cloudy.


But it has its advantages. There's no fire hazard even in a dry forest, there's no smoke from fuel which, incidentally, is free, and you don't have to cut wood, lug charcoal or argue with your local utility.

We think it's neat that Fischer Cookers

are built by hand, the wooden parts by a rehabilitation organization at the Palo Alto (Calif.) Veterans Administration hospital. Mr. and Mrs. Fischer assemble and paint the unit which takes them about four hours.

Although the Fischers tried some experimenting with do-it-yourself kits, assembled units are all that are available at the present time. Future plans, however, include selling plans and just those parts that don't lend themselves to home manufacture.

The Fischer Cooker may be ordered directly from Guy Fischer, 302 Center St., Redwood City, CA 94061. Please tell him you read about it in *Desert* Magazine. Good cooking, but don't blame us if the roast burns or the potatoes explode your first time out. It's pot luck!

**Attention Manufacturers and Marketers:** *Desert* Magazine will be glad to evaluate your product for inclusion in this column. The only rules are that it be new, commercially available and of specific interest to our readers. For details, write New Products Editor, *Desert* Magazine, P.O. Box 1318, Palm Desert, CA 92261. No phone calls, please. 







Red Rattlesnake



# **SORTING RATTLESNAKE FACT FROM RATTLESNAKE FICTION**

Article and Photographs  
by KAREN SAUSMAN

It's early morning and you've been out for a hike. Temperatures are starting to warm as you climb through the rocks to get a closer look at a crimson flower on a beavertail cactus. Just a few more feet and you'll be there, ready to photograph. Suddenly the morning quiet is fractured by the alarming, unmistakable sound of the vibrating tail of a rattlesnake. A second of initial panic but you control it, freeze, and look slowly around

trying to discover the location of the angry serpent. There he lays, coiled, about four feet away and just to your right. He looks to be about three feet long and is brick-red color with white diamond patterns — a red rattlesnake, *Crotalus ruber*. But what to do next? The snake appears to be staring at you, his tongue quickly flicking in and out, head raised about eight inches above the coils of his body. The rattling, vibrating tail begins to slow since you are less threatening now that you've stopped moving, but what now? Will he attack? What's that menacing tongue doing? And if he attacks, will you survive?

The person in this story was me. What did I do? I turned slowly and moved another step *closer* to the snake, an action which set his tail vibrating again but enabled me to get a better photograph, of him now and not the flower. I did not feel any particular concern for my safety and if I tell you why, you may be able to better evaluate your encounters with rattlesnakes.

**There are over** eighteen species and subspecies of rattlesnakes in the southwestern deserts and in addition to them, there are other venomous reptiles such as coral snakes and two species of venomous lizards, gila monsters and beaded lizards. But it is the rattlesnake that desert travelers seem to fear the most. And with good reason, since a large rattlesnake can inflict a serious and occasionally, even deadly bite.

Fear, in turn, breeds stories and legends, but just what is fact and what is fiction? Let's separate these by looking at some common myths about rattlesnakes:

## **One of the most**

often heard comments is that the forked, quick-moving tongue of a snake will sting you or somehow poison you. This is not true. The snake's tongue is a highly sensitive organ and is used to gather

molecules out of the air and carry them to a special sensory cell in the roof of the snake's mouth called the Jacobson's organ. This organ allows the snake to obtain a "taste-smell" of whatever other creatures may be near it and so the snake, which has relatively poor eyesight, can more completely identify any animals including man which may come into his environment. Therefore, the rapid action of a tongue flicking in and out of the mouth of an upset snake is simply the snake's attempt to ascertain just what kind of creature it is out there.

## **Commonly we**

hear people who feel you should never get anywhere near a rattlesnake because they are very fast and can move with lightning speed towards a person, and strike from great distances. First, any species of snake and particularly the relatively heavy-bodied, sluggish rattlesnakes moves much more slowly even at top speed than a person can run or even trot. Secondly, a snake can only strike from one-half to one-third of its total body length. Therefore, unless it is striking downhill where the momentum of its action might carry it forward, a three-foot snake cannot usually reach out much further than a foot and a half away. To be safe you should stay a full body-length away, or three feet, from a three-foot long rattlesnake, or to be doubly safe, stay twice as many feet away as the snake is long.

## **Another myth is**

that rattlesnakes are aggressive and will attack in an attempt to kill or eat you. Snakes like most wild creatures are not





Western Pacific Rattlesnake

Speckled Rattlesnake





naturally aggressive to man and are willing to retreat if given a chance. If you force a snake into a position from which it cannot withdraw, it may well defend itself. Occasionally snakes have been known to move towards a person but actually, they are headed for a rock crevice or burrow where they feel they would be secure. And certainly, rattlesnakes are not interested in attacking human beings for food. Snakes (all snakes) swallow their prey whole and so there is no reason for a rattlesnake to waste its time or energy attacking a human being for food when it could not conceivably consume something as large as a person. But how does the snake know? Again, its tongue is the key. The tongue, and a heat-receptive pad underneath each eye of all members of the rattlesnake family, help the snake discern what the animal is *and how large it is* so when they are hunting for food, they only attempt to take animals which are small enough for them to consume. It's the same process, in fact, that keeps the giant pythons of Africa from attempting to consume an elephant.

## Frequently one

hears of "old-timers" who camp out in the desert and are not worried about rattlesnakes because they surround themselves with a horsehair lariat or even occasionally with some branches of cholla, believing themselves to be safe from the potential visits of the neighboring rattlesnakes because the snakes would not want to crawl over the rope or through the cholla. While the cholla may be a mild deterrent to a rattlesnake, the lariat would be no deterrent at all since the heavy thick scales on all snakes' bodies are impervious to the rough prickly edges of the rope.

## Still another

fallacy often repeated about rattlesnakes is that there is one rattle on their tails for each year of age. This is simply not a fact. A rattlesnake acquires a new rattle every time he sheds his skin. A young, healthy and growing snake may shed two or three times a year and thus acquires up to three rattles within a year. At the same time, the rattles are occasionally knocked or broken off as the snake crawls through rocks and bushes. There is no way to correlate the age of the snake with the number of rattles on the end of its tail.

## My purpose has

been to quell or at least ease some of your fear of rattlesnakes. Still, they are venomous, potentially dangerous animals and must be treated with respect. There are many species of non-poisonous native snakes, however, which are highly beneficial and should be allowed to coexist peacefully around homes and gardens since they eat and therefore control rodents which can quickly become pests. But how can you identify the rattlesnake

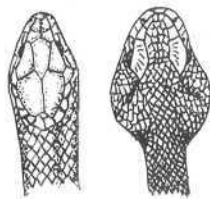
from the harmless species that live in our southwestern deserts?

One might think the simplest way would be to look for the rattle. If the snake has a rattle, it's a rattlesnake and therefore dangerous. However, it is possible that the rattles may have been lost and so you should not base your identification solely on whether or not the snake has rattles. There are several other physical characteristics that help to identify rattlesnakes. One is that those native to the southwest are generally heavy-bodied snakes. They often have a sharp ridge called a "keel" running down the center of each scale which gives the snake a very rough, scaly appearance.

An immediate identification is the size relationship between the back of the head and the neck. The head of a rattlesnake is

(LEFT) MOST  
NON-VENOMOUS  
SOUTHWESTERN  
SNAKES

(RIGHT)  
RATTLESNAKE  
BROAD HEAD,  
NARROW NECK



very broad near the back of the jaws because the venom glands are located there. The broad head is attached directly to a very thin neck as is shown in the accompanying illustration. The heads of non-poisonous snakes in the southwest are about the same circumference as their necks.

Differences noted so far between rattlesnakes and non-poisonous species are only valid when comparing snakes native to the southwestern deserts of the United States. As one travels into Central and South America and even Mexico, there are many species of snakes with very slender bodies and with shiny scales.

## It is relatively

easy for the hiker to avoid encounters with rattlesnakes. First of all, confine your walking to open areas where visibility is good. The best defense against a snake is seeing it before it senses you. *Don't* climb through rocks and boulders where you cannot see where you will be putting your hands and feet, especially during the early morning and late afternoon in the warm months of the year when snakes are more active. Save your rock climbing for the winter months when all species of snakes and other reptiles are deep underground in hibernation. *Don't* put your hands or fingers under rocks or boards to turn them over or pick them up, as snakes habitually seek this type of shelter.

Use rakes and long-handled shovels to clean up brush and again, *don't* pick up the brush with your hands because it is usually in such brush that snakes will retreat to escape the heat of the summer day. If you do hear a rattlesnake, stand very still until you know the exact location of the snake. If

you are well out of striking range, say more than five feet away from a three-foot long snake, you can relax and just move slowly out of reach. However, if you find yourself within a foot or so, it would be best to stay immobile as any quick action by you may trigger a defensive reaction from the snake. Usually the snake will start to back away if you stay still long enough.

The chances of actually being bitten by a rattlesnake while hiking are very, very slight. Actually, most snake-bite victims in the southwest are individuals who either were bitten by their "pet" rattlesnakes or who were attempting to handle or catch rattlesnakes. But still, there is the possibility.

The bite of a southwestern rattlesnake will result in gross swelling around the bitten area and a great deal of pain as the venom begins to break down body tissues. Prompt medical attention is necessary to keep tissue damage to a minimum. The victim should try to remain as calm as possible and not undertake any physical exertion unless absolutely necessary. A tourniquet between the bite and the heart can be used but should not be so tight as to cut off circulation to and from the arteries, and it should be loosened every few minutes. The victim should always be taken to a hospital as quickly as possible to receive proper medical treatment.

It is a good idea, if it can be done without unnecessary delay or risk, to kill the rattlesnake and bring it with the victim to the hospital so that proper identification of type of snake and thus, type of treatment, can be made. However, the venom of the various species of southwestern rattlesnakes is somewhat similar and, therefore, so is the treatment. Be careful when handling the recently dispatched snake as the venom is still toxic.

There are many commercial snake-bite kits available which have suction cups that are supposed to help draw out the venom and scalpels to make incisions above the wound to "drain" the venom out. My personal opinion which is backed by physicians is that the use of these kits in the field can lead to more damage and trauma than their potential value. A rattlesnake bite is very serious but unless the bitten individual is a very small child or an elderly person, there should be ample time to go to proper medical facilities for treatment. Administering anti-venene is often dangerous in that the bitten person may have an allergic reaction to the horse serum which is the base of most anti-venenes. Again I stress the use of the light tourniquet and keeping the victim calm as perhaps the best field treatment for snake bite.

## The best defense

of all against a rattlesnake bite, of course, is being cautious when you are out hiking and learning to identify the poisonous from the non-poisonous snakes that you might encounter. **D**



# WILLIAM HENRY JACKSON

*by* Marian Clover

The year was 1866 and all traffic moving west moved in covered wagons and every ox was a bull.

"In all the language there is no word that so exactly expresses a meaning," said William Henry Jackson, bullwhacker.

The job was sixteen hours, seven days, beginning with a predawn holler when 330 ornery oxen were loosed inside the circle of wagons and each bullwhacker hunted down his team of twelve. Jackson wrote home:

"Some other steer, having a grudge against the one you are gently urging up to the wagon wheel to fasten, gives him a punch in the ribs with his horns and sends him kiting into the herd again. You hang on manfully and are snaked around right smart, and you have to jump on some of their backs to escape being squeezed to a jelly."

When they started, bullwhacker and bulls were equal. Jackson had never held a wooden bow in his hands and his bulls had never been yoked. It took the greenhorn eight hours to line up his team. After a few weeks he had it down to 35 minutes.

His only ease was a few minutes sketching around the campfire at night. He could never remember a time he didn't draw. Back in New York he'd painted lush green landscapes with gentled hills. Here on the trail he drew the wild-eyed bulls, wagons with their faded canvas, and the flatland that stretched ahead interminably.

When the sand stuck in his teeth and the dust got thick enough to chew he looked at the rusty wagon wheels and buffalo shoulder blades with hasty scrawled epitaphs aside the trail. He reminded himself he was lucky to be alive.

Though cholera didn't hit Jackson's wagon train, scurvy did. His gums





W. H. JACKSON AT SALT LAKE — 1866



## Jackson traveled with the Hayden Geological Survey, each summer sketching and photographing land north and south of the Overland Trail.



PONY RIDER IN BLEAK WINTER STORM

softened, his chapped lips bled. The wagon train carried no medicine, but he got ahold of some horses' oats and boiled the stuff for flapjacks.

His mouth cured, he thought he might live.

There was plenty of time to look around on the trail. After a stint in the Civil War as staff artist for the Union, drawing landscapes, fortifications and maps, his eye was trained for western scenes of vast distance.

When his fiancée dissolved their engagement, the only thing left was to cut all ties and go west. Where else? West was where the gold and adventure waited. He answered an ad:

**100 TEAMSTERS WANTED. PAY  
20 DOLLARS A MONTH AND FOUND**

"Found" was a flop on top of a packing box in the wagon and grub of bread, bacon and coffee. Charged against the pay was a pair of blankets, carpetbag, a Colt .44 and a white rubber coat.

The grimy bullwhacker who egged his team on for fourteen miles every day became tough as a bullet. The pale, polite artist in a stovepipe hat with soft hands was replaced by a teamster who learned to goad, push and cuss his animals while dodging the backlash from the other whips in the train of 25 wagons.

In cloudbursts Jackson learned a wet man can get wetter. And when there was no water for 28 miles they drove the bulls all night long, knowing oxen would stampede a mile for water, dragging a wagon behind them.

In mid-October they closed in on Salt Lake City. It was winter, and after two days

of freezing rain and snow, the haul through Silver Creek Canyon became Jackson's worst ordeal.

The mud was frozen under two inches of snow, and hoofs and heels and wheels turned it to mush up to the hubs. When a wagon bogged down, they were forced to yoke 24, sometimes 36 bulls.

Driving snow stung Jackson's face, coated his eyelashes, and turned the teams into snorting white phantoms. His boots had been used up and by noon his moccasins were cut to shreds on the crusty snow.

When they finally made camp it wasn't the end of it — the men drove the bulls three miles to the bottom of a hill for shelter. When Jackson finally legged it back to camp he had no sensation in his bare feet. No pain.

The fire was out. He gulped cold coffee, swallowed some greasy bacon, and crawled under his blanket.

The lack of fire saved his feet. If he had been able to thaw the frostbite, he would have lost them. Next morning his feet were so swollen he couldn't move.

A few days later he hobbled into Salt Lake City, healed enough to enjoy the fresh peaches and white houses that greeted them. The journey that toughened him reduced his one suit of clothes to rags. His trousers were so thin he wore two pair "to avoid arrest for indecent exposure." The heels on his boots were worn off, "and my hat was recognizable as a head covering only when I had it on."

He found work with some Mormons and paid for his keep by sketching the family. He walked around "Brigham's Wall," where sentries guarded the Mormon

"White House," the Tithing Office, the printing house which published *Deseret News*, and the government offices, schools and workshops.

Jackson bathed at Hot Sulphur Springs and visited the Tabernacle and Temple, both far from finished.

Once he was rested up, the land of perpetual summer beckoned and there was nothing for it but to head for California. West of the mountains, wagons were empty and pulled by compliant mules, animals that were quite docile compared to bulls.

Jackson got a job with a trail-gang headed through the desert. The trail was so visible he got up early, walked ahead of the wagon-train, sketched till mid-afternoon, and then caught up with the crew. By the time he arrived in Los Angeles he had a sizeable portfolio of the trip through Utah, Arizona, Nevada and Southern California.

The train made one stop in central Utah to celebrate New Year's Eve at a "bull dance" — without a musical instrument — and a few weeks later Jackson crossed a narrow log footbridge into Los Angeles.

The town of 5,000 people had orange and lime trees lining the streets. The village was Spanish in style but Yankee-sharp in trade.

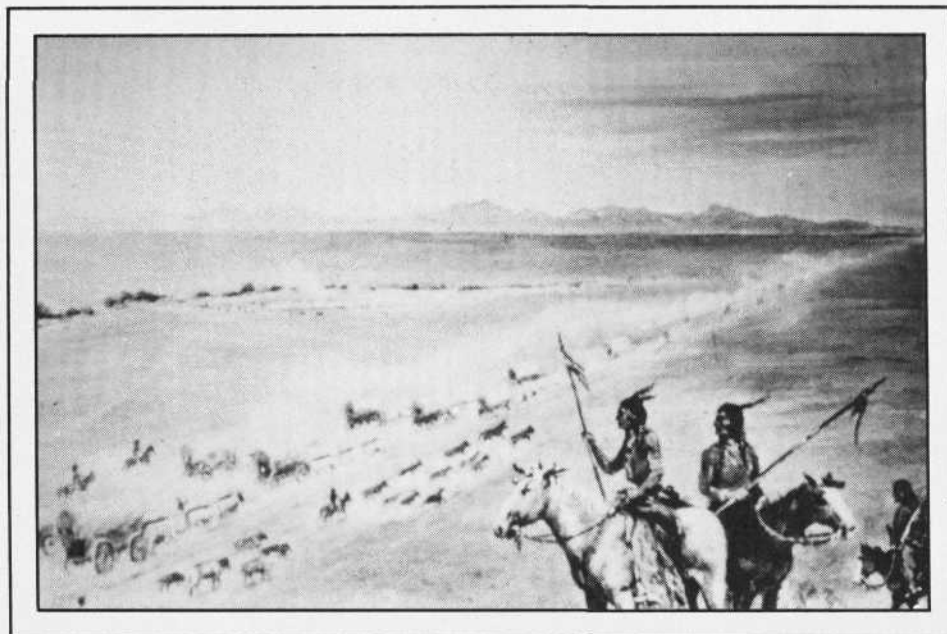
He sold his rifle at a 40 percent loss.

Jackson took lodgings at a stage station, where his talent served him again as staff artist. Each visitor from the north brought discouraging reports of mining, and his gold fever petered out. The orderly green of the east became more tempting.

The way back meant a job driving broncos and mustangs descended from fiery Spanish stock.



## At age 95, Jackson painted forty watercolors and four oil murals for the Department of Interior in Washington, D.C.



"BIG MEDICINE ROAD" THROUGH INDIAN COUNTRY

"Half the herd of 200 had never been broken and the rest could be counted on to shy, buck or get into a frenzy."

Sullen bulls seemed placid now. A man could make a 300 percent profit, if he survived. Jackson only wanted transportation in the right direction, and he convinced the trailboss he could snag broncs, lasso, and brand with the best of them.

Hired on, he found himself following the same route he'd taken west. It was an eventful trip with little time for sketching. Once the boys managed to lose all the stock. Stampedes were frequent. Horses had to be thrown and shod, daily. One day Jackson pulled a driver's aching molar with a rusty bullet mold for his forceps.

Wagons they met along the trail shied from joining 200 horses, six men and one woman. Keeping the mounts together was hard. They were plagued by clouds of mosquitoes, sometimes covering the animals so completely their color couldn't be seen.

When they picked up two new men, the stock ran off and one of the new hands found them. Jackson suspected they'd taken on two rustlers, but as he'd learned going out on the trail, unfriendly country was no place to be shorthanded.

At the Continental Divide they passed two stage stations burnt to the ground. Grave mounds increased. All wagon trains were placed under military protection.

But if tempers were short and the horses hotheaded, Jackson's outfit was safe from Indians. He thought it was because they didn't look like surveyors — the dread of Western tribes.

One day they were stopped by a buffalo

migration and he had time to sketch the half million he estimated were thundering past. The staple of the Indians was becoming important to the white man. Buffalo Bill Cody worked for eighteen months supplying railroad construction crews with ten, twelve buffalo a day.

All along the route Jackson saw scavengers roaming the land, picking up buffalo bones to sell for fertilizer and buttons.

Trail's end came at Omaha, after an overnight rail trip with men and animals jammed into boxcars. Jackson was paid off. After weeks of aching muscles, freezing the sweat on his back, getting kicked, jabbed, yanked and driven as hard as the horses, he had earned enough money to buy a new suit and a shave.

Though Jackson spent his summers roaming the west, he was through with bulls. The only horses he would handle would be the ones he rode. He lined up a job as a photographic retoucher at \$25 per week — exactly what he'd earned back east before his year of hard labor on the trail.

He established a portrait business of his own, leaving his studio to photograph and sketch the great Indian chiefs. He traveled with the Hayden Geological Survey, each summer sketching and photographing land north and south of the Overland Trail, often recrossing familiar paths.

At first his studio was a horse and buggy outfitted with a sink, water key, tripod, and enough glass for 400 plates. Later his darkroom became more portable when he loaded his gear on his pack mule, Hypo.

Jackson's photographs cinched government support of the surveys and convinced a skeptical Congress to establish Yel-

lowstone as a national park.

Jackson never stopped sketching. There were details no camera could catch, perspectives no film could interpret, shades of color no black and white prints could convey.

He was delighted with color film when he first tried it in 1939.

"If I were beginning over I'd do everything in color," he said.

At age 95 he painted forty watercolors and four oil murals for the Department of Interior in Washington, D.C. Today his works hang in industrial suites and museums. He lived to be 99, painting to the end — long enough to congratulate the Boy Scout at the end of the line on the 75th Anniversary of the first Pony Express Ride.

He had sketched the original riders and their mounts!

There's a story illustrating his philosophy of life and art. He and a friend decided to climb a mountain, one of the toughest climbs in North America.

They went up to the top and came down. "That to my mind is the way to climb a mountain," Jackson said. "Sometimes there is an awful lot of nonsense about it."

His no-nonsense attitude served him well. He left behind hundreds of paintings and drawings that capture the Old West with superb insight, empathy and accuracy — just the way it used to be. **D**

(Ed. Note: Author Clover expresses indebtedness for her quotations to "Time Exposure," the Autobiography of William Henry Jackson, Cooper Square Publishers, New York, 1970.)







# COAL, COMO *and* CHRISTMAS

*A Combo that May  
Revive Madrid*

**by Dan B.  
McCarthy**

*When Perry Como and his song and dance troupe were in town last year filming a segment of his televised Christmas Special for 1979, Como came through famously with residents by calling their rustic, reawakening ghost town "MAD-rid." Emphasis on the MAD . . . .*

*That's as it should be in Madrid, New Mexico.*

**(Left) The modest white-washed homes of Madrid were lived in by coal mining families through the mid-1950s.**

**M**ost visitors who travel those 27 miles along State Route 14, a little southwestish out of Santa Fe, or who drive north out of Albuquerque, are likely to mention back home their visit in quaint Madrid. And they pronounce it *MAH*-drid, just like references to Old World Spain's capitol in Ernest Hemingway's novels.

Some say the town bears the name of the Francisco de Madrid family, which dates back in the southwest to de Varga's 1692 re-conquest. Others say, no, it's named for Spain's largest city.

One early summer's morning B.C. (before Como), I sat alone in *MAD*-rid's baseball park which was not collapsing then, but just deteriorating. Trees, trunks thicker than saplings, blocked the view from the grandstand towards the diamond.

Tethered in the outfield, a burro hee-hawed to greet a new day or for whatever reason burros like to hee-haw. From across town somewhere a dog, sounding like a German shepherd, barked his authoritative contribution to drown out delightful birdsong heard between the brays of the burro.

The rest of Madrid seemed asleep.

Alone with my thoughts I wondered what Madrid was like in its heyday when people bought tickets to sit in the grandstand. Later, when Madrid awakened, I nosed around, asked questions, gathered a notebook full of answers, and exposed a lot of film.



**T**his former coal producing patch of New Mexico caught on as a community in 1882 when the Atlantic and Pacific Railroad's gandy dancers strung a five-mile spur line through the Ortiz Mountains leading to Waldo, where some fifty beehive-shaped coke ovens then operated.

Prior to the railroad's arrival, pioneer Madrid miners had been working the bituminous and anthracite coal fields on a limited basis since 1869. Historians report coal taken from the area as early as 1835.

Madrid's major thrust on the national scene covered from 1920 to the late 1940s, after a World War II production spurt ended when hostilities ceased overseas.

By 1954 Madrid was off the coal market and the whole town was on the real estate market. For Sale! The whole thing!

A classified advertisement which appeared in the *Wall Street Journal* read:

#### ENTIRE TOWN

200 houses, grade and high school, power house, general store, tavern, machine shop, mineral rights, 9,000 acres, excellent climate, fine industrial location.

Alas for the Albuquerque and Cerrillos Coal Company's owners, there were no takers for the \$250,000 asked.

Today, says editor Paula Sherman of *The Rustler*, a bi-weekly published out of nearby Cerrillos, "estimates place 150 to 300 persons living in Madrid."

One historian gave Madrid the nickname of "Pittsburgh of the West" when 300 tons of coal rolled daily to market as America moved into the 20th Century. Then some 350 families, numbering about 2,000 persons, populated the Gaslight Era scene. And there were residents who complained that their \$3 coal bill each month was too high!

Madrid coal helped stoke stoves as far away as Royal Canadian Mounted Police posts. And, shipments were steady to nearby Los Alamos during "Fat Albert" atom bomb production.

From Madrid's unruffled, halcyon past, former residents and visitors remember best, perhaps, the 40,000 Christmas lights that showered national acclaim upon the community.

**F**eelings about mining are mixed, but most local residents do not wish the quality of life in reborn Madrid to decline as a result of mining traffic, blasting and such.

Hillside dioramas featured the Nativity scene, Santa Claus and company, and also Mother Goose characters. From the early 1920s until WWII's energy conservation period the exquisite nighttime panorama annually focused national attention on Madrid.

Fittingly, Walt Disney and several of his children drove the gravel roads during the 1937 Yule season to view the splendor. And some 15,000 other carloads of people added to that year's visitor count.

Officials of Trans World Airlines permitted their pilots to change course slightly and fly over Madrid, allowing passengers glimpses of the extravaganza.

That was at Christmas! But when Fourth of July was nigh, or Easter, or the opening game of the town's baseball season, townsfolk gathered to festoon their community.

**D**uring several visits to Madrid we preferred to park "downtown" and just walk the town, soaking in the past, noting today's life, and trying to imagine "houses aglow with lights."

Here and there among the row houses on the hillside, reconstruction has made crumbling structures home again for occupants. But the many untouched homes show the hard knocks of time and bad weather in a ghost town.

The big, boxy former dance hall has a distinct structural sag, but still is standing. There's a sign warning visitors to keep out. Nearby, a former church, and then children's workshop classroom when people began wending their way back to Madrid, is now a private residence, still charming. The present owner, says Editor Sherman, "prefers her privacy and does not want people requesting entrance to the former church."

Rusting auto hulks, showing lines of models current in the late 1930s, were once parked along a weed-strewn lane near the heavy-timbered tippie but they along with the tippie, as of Spring, 1980 have disappeared from Madrid's past. Somebody had need for the lumber, and the autos were collectable.

"It is a shame," laments Paula Sherman, "but it is too late for preservation. It is hoped, as Madrid grows and becomes more organized that an effort can be made to restore some of the historic buildings."

Growth talk notwithstanding, Madrid, whose post office was opened in 1896 and discontinued in 1966, has earned its niche in ghost town books published by the University of Oklahoma (1974) and the University of New Mexico (1967).

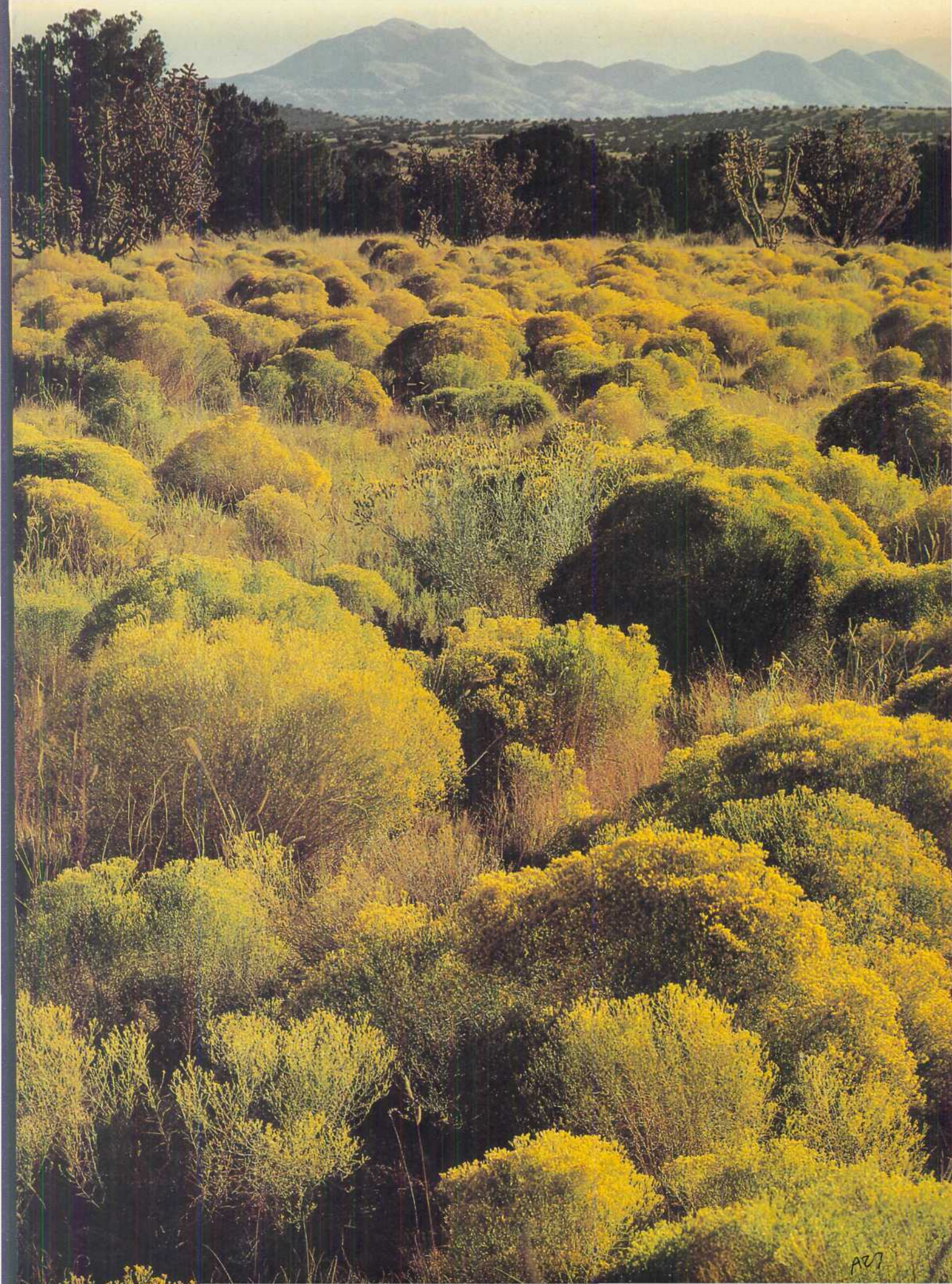
These times, with national talk about a coal industry resurgence to alleviate energy problems, folks around Madrid discuss their vast untapped coal reserves. Overtures are being made by coal interests to get the town back into the coal mining business. That stirs controversy, making some Madrid residents hot around their collars.

"Feelings about mining are mixed," says Editor Sherman. "But most local residents do not wish the quality of life in reborn Madrid to decline as a result of mining traffic, blasting and such."

Community togetherness has evolved into a Madrid volunteer fire department, a water cooperative, and a landowner's

**(Right) The plains below the Cerillos Hills near Madrid come alive with summer bloom.**





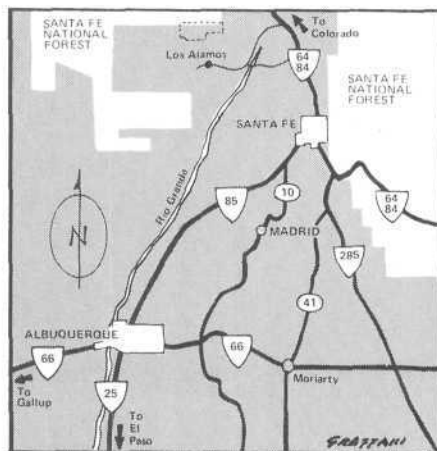
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A classified advertisement which appeared in the *Wall Street Journal* read:

### ENTIRE TOWN

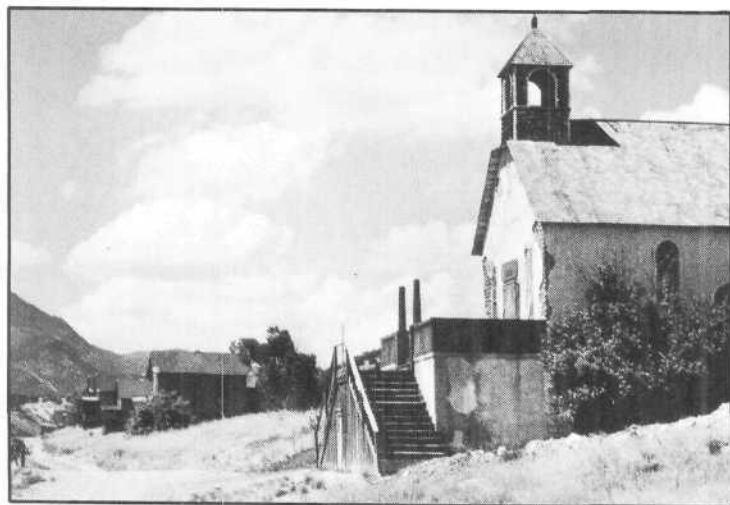
200 houses, grade and high school, power house, general store, tavern, machine shop, mineral rights, 9,000 acres, excellent climate, fine industrial location.







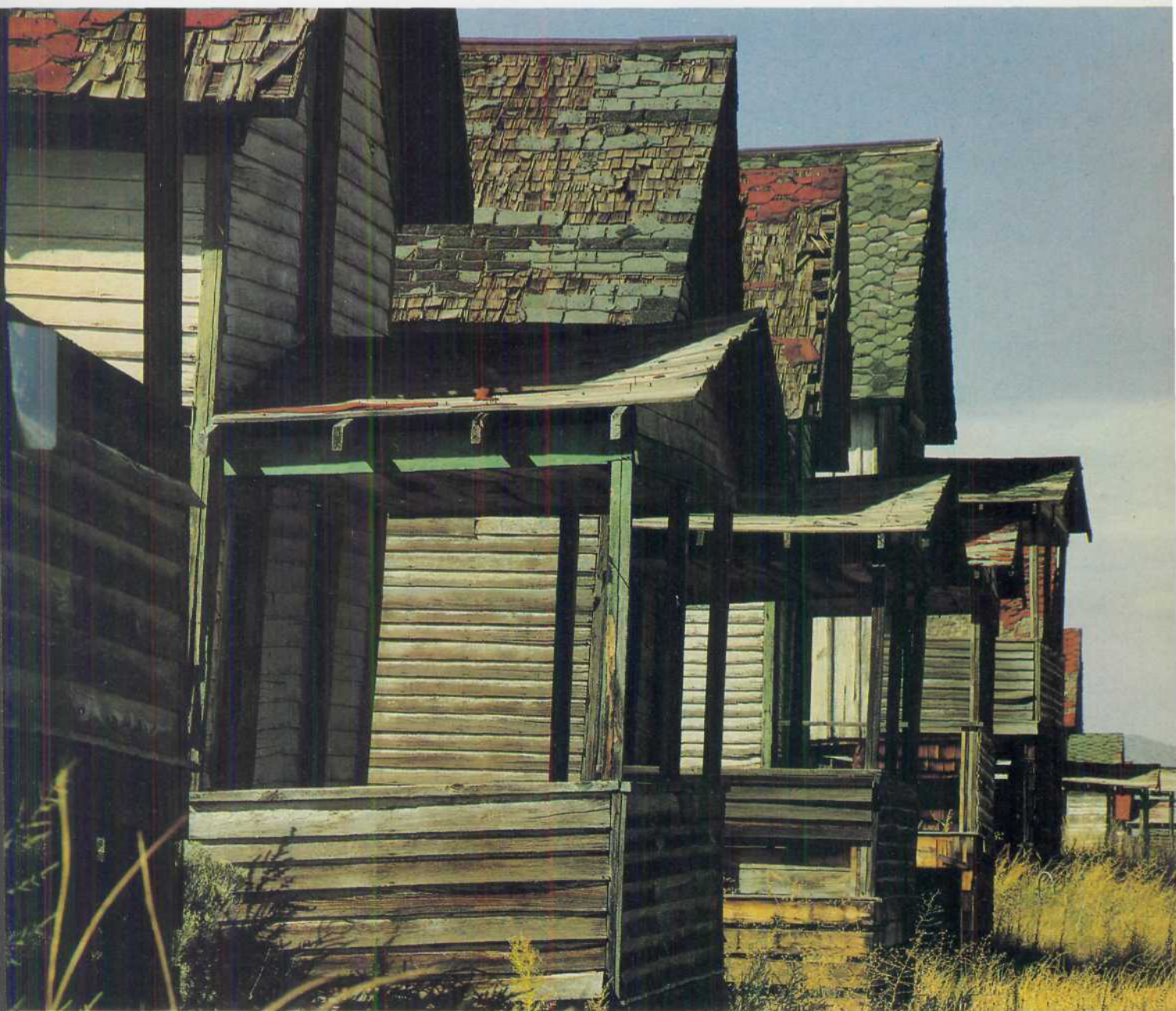
PHOTOGRAPHS: DAN B. MCCARTHY





Former residents and visitors remember the 40,000 Christmas lights that showered national acclaim upon the community.


DAVID MUENCH



association. You can buy groceries, gasoline and handcrafts at Tuffany's, the former Pack Rat's Nest. Sam's Hideaway is a leading town restaurant. And Sin Nombre, Madrid House, and Madrid Earthenware Pottery are active businesses.

"The nature of Madrid is changing," the Cerrillos editor reports. "The population mix is starting to become one of responsible young families rather than transient young people."

Last Christmas season for the first time in 38 years, a huge Christmas tree diorama on a hillside west of Madrid was lighted. Maybe, say residents with keen hopes for future Yultides aglow, some of the famous lighting of the past, little by little, may return to the Ortiz Mountains.

Amid such speculation, nobody has heard anyone rebut: "Bah! Humbug!" Who would dare to provoke one of Charles Dickens' characters in a ghost town? 

**(Above) Madrid was a "company town" which accounts for the sameness of its architecture.**



# Clarion

☆THE NOSIEST NEWSPAPER IN THE WEST☆

VOL. 1 NO. 6

MARY E. TWYMAN, EDITOR

AUGUST 1980

## RIVER PROPERTY OWNER REBELS

**Needles, Calif.** — Dale Stout, operating a rented earth moving machine, last month levelled the dike which crossed property he owns on the Colorado River north of Bermuda City. It does happen! A little guy sometimes becomes sick and tired of being pushed around by a bureaucracy, and he acts in a way he feels is in his best interests.

Stout is a quiet, unassuming gentleman. He does not associate with those who feel they are powerful, politically. He is a longtime employee of the Santa Fe Railroad.

Long before the Bureau of Reclamation had decided to rectify one of its many major mistakes along the river and ordered levee work to contain waters in the event of a one hundred year flood, Stout acquired riverfront land which he felt might be ideal for his retirement years. During the early 1950s, a river containment of channel water was started with the Bureau in charge. This was instituted following a flooding stage that almost inundated the town. The flooding was due to an engineering error associated with back-up waters at Parker Dam upstream.

In time, (Stout feels it was in 1954) the levee work came to his parcel of land. He already had warned Paul Oliver, river levee engineer, that

he would not tolerate a dike across his land; that he felt the barrier should be placed closer to the main channel and the backfill pumped from the river should be used to level his land and make it useful.

In the belief Oliver was an honorable man, Stout went on his annual vacation. When he returned and went across the river to ascertain if the levee work had been done according to his wishes, he found a condition he now refers to as a mess. Oliver had confiscated his property without due process of law. Oliver, contrary to a verbal agreement, did not fill in land Stout had intended to use as a recreational area; instead he had left many barriers to systematic land preparations.

Stout now admits it was difficult for him to talk with Oliver; once the Bureau's dirty deed was accomplished. He heard all of the bureaucratic double-talk, usually reserved by the Bureau for Indians who "got in the way."

As the years went by he watched others who had river land sell such holdings for tremendous prices. He became bitter regarding an obvious fact; that many who were socially or civically prominent and owned river land near his demolished area had received special

treatment. He cites parcels where the channel and dike are in harmony with land ad-

jacent and the fills are even with the top of the levee. (Cont. on page 32) ❧

## BILL SMITH GREET'S SWALLOWS LAST TIME

**Riverside, Calif.** — When the swallows next come back to Capistrano, as they do every year on March 19th, they and all the world will no longer see a dear friend.

James William (Bill) Smith won't be there to field telephone calls from radio and TV stations around the globe as he has every St. Joseph's Day since 1963. Bill died on May 2nd in Riverside at age 67 after a long and courageous struggle with heart disease.

This year he checked himself out of a hospital to greet the birds for what turned out to be the last time and then, three days later, he rode (on horseback) in San Juan Capistrano's annual Swallow's Day Parade.

A native of St. Charles, Missouri, Bill held a doctorate in literature and had written two books on Capistrano, *The Capistrano Story* and *The Swallows of Capistrano*.

He was best known, though, for being the "Voice of the Mission" who each year sat in the Parish gymnasium before a battery of phones.

His answer to the question "Have the swallows arrived yet?", was translated into fifty languages and broadcast to listeners in as many countries via satellite.

Bill will be missed. His knowledge of Mission history and also, humanity, was vast. — **Desert News Service**



"Voice of the Mission."



### River (Cont. from page 31)

"Such parcels are owned by people who are friendly with the big man," Stout said.

Since those early days, and with great malice against the actions of Oliver and the Bureau of Reclamation, Stout always kept in mind that the government had acted in an illegal manner. This conclusion was predicated upon the following facts as described by Stout:

1. The government did not purchase the needed right-of-way for the levee across the Stout property.

2. The government at no time ever offered to rectify damages the Bureau caused to private property owned by Stout.

3. The Bureau did not explain its actions after Stout found his property ruined for further development; in fact, Oliver refused to meet with Stout and when a meeting was inevitable, was rude to the property owner.

4. The government never had explained why it considered private property owned by Stout as public domain, and legal papers were not served on the victim.

These points led Stout to believe he could do as he wished with the property anytime he decided to start improvements. He researched the records at Mohave County courthouse. Plat maps show no allowable easement given to the government for a levee. He could not find anything in writing which favored land grabs by the federal government, and his conclusion seems logical. The levee is on private property and so therefore, must be owned by Stout.

So Stout decided to level "his" dike and improve his land prior to actual building development. He brought the dike to grade. The land, he said, is still seven feet higher than the top river crest. He sees no danger of flooding and feels the dike was constructed mainly as a convenience for the Bureau during times when the levee work was being done during the early 1950's.

Stout's action brought immediate responses by the Water and Power Resources Service's Lower Colorado Re-

gional Office in Boulder City, Nevada. That federal service is, in fact, the Bureau of Reclamation. Roy D. Gear, acting for Regional Director Eugene Hinds, wrote on April 17: "Dear Mr. Stout: On April 16, 1980, you were observed to have destroyed a portion of a federal levee about two miles above Needles, California, on the Arizona side of the Colorado River.

"Such action is in violation of Section 1361 of the Criminal Code, 18 U.S.C., and section 14 of the River and Harbor Act of 1889, 33 U.S.C. par. 408. Copies of these statutes are enclosed for your ready reference."

Gear's letter continued, "Under the foregoing laws anyone convicted of such conduct is subject to fine or imprisonment. In addition, he is liable to the United States and other parties for the damages resulting therefrom.

"This levee was constructed by the United States in 1954 and has been in continuous use since then to protect the adjoining lands against flooding, which is an imminent threat this season," Gear explained.

He continued, "You are therefore required, within a period of no more than 10 days, to restore the levee in a manner satisfactory to us, including the road thereon which is depended upon to maintain and protect the levee. Failure to do so will leave us no alternative but to initiate prosecution under the applicable statutes and to hold you responsible for such damages as may arise from the destruction of the levee and the flooding of adjoining lands."

Stout noted that Gear sent a copy of the letter to Michael D. Hawkins, United States Attorney, Phoenix, Arizona.

Upon receipt of Gear's letter, Stout sent a reply to the Bureau of Reclamation in Boulder City which read as follows: "Dear Sir: This is concerning my property at Dike Road. You are not to trespass men and equipment on my property without my permission. To do so will be trespassing my private property and I will take action to stop you, and any equipment

will be impounded for any damages to my private property. Signed Dale E. Stout."

Stout did have a confrontation with Robert C. Brose, Chief, River Development Branch for the BuRec. He said he told Brose the story of how his property had been taken without compensation by the government and also without any release to the government allowing trespassing and damages that ensued.

"I don't understand this," Stout said. "They can produce no legal instrument regarding taking of the land. Then they take the attitude that I broke the law because now I have decided to improve my land. They will have to show me how and where I have broken the law by removing that eyesore off my property so that I can start improvements."

He apparently has his mind set on taking on the government. He said he has acted in a legal manner because the government had acted in an illegal manner in 1954, and then completely disregarded his pleas for justice. "They can take me off to jail," he said. "They can threaten me all they want; but, where does it say in the Constitution that the government can

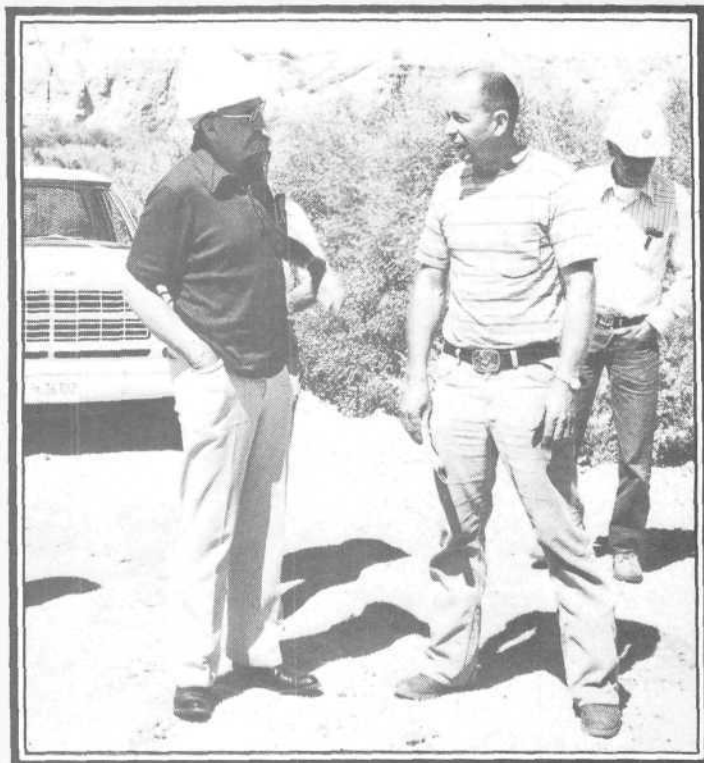
come in and help themselves to land owned by a little guy and when the little guy wants something in return, all he gets is a kick in the pants?"

Stout's actions have caused unusual interest in the Needles area because involvement by the Bureau during the 1950s in questionable land acquisitions still rankles a large number of people. The government claims Stout has placed private land near his acreage, and further downriver in Bermuda City, in grave danger. The government already has indicated river water releases will be record high during the coming months. The implications made were the government could release water which would overflow banks and creep up to retaining dikes. A comparable site is the dike road along a nearby golf course. If flooding does become fact, water would cover the golf course area from the present river bank to the dike road.

Stout says this isn't true because in his area the river tops off seven feet below the present bank. He also said he wants to be taken to court and have the opportunity of defending himself and his property.

Lee Perry

— Needles DESERT STAR



Dale Stout, center, confronts a Bureau of Reclamation engineer.



# FIGHT PROMOTER RICKARD PROMINENT IN OLD TONOPAH

**Tonopah, Nev.** — "Never stare the spots off of your cards; play!" was the philosophy propounded to a poker player in Nome by George (Tex) Rickard during the Alaska gold rush days and such was the philosophy of this famous promoter's colorful and successful life.

After leaving Alaska Rickard stopped in San Francisco long enough to meet, court and marry his third wife. Shortly after this marriage he informed his bride that they would be moving to Goldfield, Nevada. Some fellow he had known in Dawson had told him that there was rock down there that was almost half gold and half silver, and just about nothing else.

The Northern Saloon shot out of the sands of Goldfield as if energized by the very presence of this man of vision. It was filled day and night with rollicking happy men of fortune. More gambling tables were soon needed and Tex took on a partner. Within a year's time the place had brought in over \$250,000 cash for each of the men and the flow of gold over the gambling tables continued seemingly without end.

The city fathers decided that a community which in a year's time could produce \$20 million in gold and silver, and where water was more expensive than beer, should at least be deserving of national recognition.

The main problem was how to break into public print, for after all, Tonopah, only 26 miles away, had similar attractions and a two-year start on Goldfield. It was decided in a conclave over the bar of the Northern that something big must be done at once to attract industry to Nevada's fastest growing town.

But where would they find someone big enough to perform a one-man chamber of commerce feat such as this? One of the conferees, pointing his glass of beer at the quiet, tight-lipped owner of the Northern, said "Gentlemen, there's your man."

Tex Rickard was appointed chairman and committee of one to sell Goldfield, Nevada to the rest of America.

A type of town hall meeting was held in the back room of the Northern. When all had had their say, Tex spoke up with "Boys, everyone likes a good fight no matter whether it's a couple of snakes or a couple of roosters or a couple of men." And what type of fight could possibly create more attention nationwide than a championship bout staged in a roaring gold camp in the middle of the Nevada desert?

Tex had already contacted the managers of two of the world's best lightweight fighters of that time, "Battling" Nelson, white and world champion, and Joe Gans, black and a tough fighter. A guaranteed purse of \$30,000 in gold was agreed to.

The two men faced each other in an open arena under the sweltering sun of Goldfield in September, 1906. The fight lasted for a torrid 42 rounds. Gans was finally awarded the decision on a foul and was declared the new lightweight champion of

the world.

In 1910 Tex promoted the world heavyweight fight between Jim Jeffries and Jack Johnson in Reno. George Wingfield, a wealthy investor living in Tonopah at the time, put up most of the money. Tex said of Wingfield "he's the best gambler I ever see'd."

Rickard was right as usual, for a little later Wingfield, in an open game at the Tonopah Cub, not only broke the bank but won the gambling house.

F. D. Howard  
— **Tonopah TIMES-BONANZA and Goldfield NEWS**

## ARIZONA'S MIRACLE MILE

**Prescott, Ariz.** — A central Arizona highway inadvertently has been paved with gold-up to \$70,000 worth.

It was discovered that 50 to 100 tons of earthen material used to fill potholes in the Bumblebee Highway west of Interstate 17 had been dug from the nearby Gloryanna Mine.

According to Yavapai County Supervisor Art Copinger, a county grader operator authorized use of the goldfilled earth and rock from the mine property, which he claimed to own.

After getting the go-ahead from grader operator Walter

(Red) McDonald, who was unaware of the material's riches, the county proceeded to fill the potholes.

After learning what had happened, Pete Incardona and Stanley Pellow, both of Phoenix, produced a counterclaim to the Gloryanna Mine property.

Pellow said yesterday that he and Incardona had the material assayed on the mine property while arranging to have it refined, and it was determined that the material contained 1 to 1-1/4 ounces of gold a ton.

In the meantime, however, McDonald authorized its re-

moval. It appears unlikely at this stage that the gold can be recovered, Pellow said.

"The ore was used to fill deep holes," he said. "It's down so far that nobody can get to it."

No legal action had been filed. Yavapai officials and the counterclaimants reportedly were to meet to decide what to do.

— **Desert News Service**

## RECORD CORVINA

**Bombay Beach, Calif.** — An orangemouth corvina weighing 36 lbs., 4 oz. — four pounds heavier than the existing California record — was taken from the Salton Sea by Melvin Mitchell of Compton.

Mitchell, 48, caught the giant at 4:05 p.m. on May 17th, using 20-lb. test line and a Corvina jigger with a black tip and a red skirt. The catch was made about a mile southwest of the Bombay Beach marina in 12 feet of water.

Mitchell reported that it took him 35 minutes to boat the fish which was the only one he caught in nearly a full day of fishing. The corvina measured 45 inches in length and 28 inches girth.

**Desert News Service**

## BLM EYES NEW DESERT LANDMARKS

**Riverside, Calif.** — The Riverside District of the Bureau of Land Management has proposed 15 new sites in the California Desert to be named as National Natural Landmarks.

An officially named landmark may be on public or privately owned lands. There is no obligation to the landowner other than a voluntary commitment to protect the landmark, but nearly all of those under consideration are already slated for protec-

tion under the Desert Plan.

Sites under consideration include Crucifixion Thorns, Fossil Canyon, Coyote Mountains, Picacho Peaks and Milpitas Wash in Imperial County; Deep Canyon, Mecca Hills, Painted Canyon, Box Canyon and Carrizo Creek in Riverside County; Cima Dome, Devil's Playground and Kelso Dunes, Pisgah Crater, Cave of the Winding Stair and Afton Canyon in San Bernardino County.

— **Desert News Service**



# THE MAN ON TOP CHIRIACO SUMMIT

by John T. Frye

It's been quite a career for the kid who hitch-hiked from Florence, Alabama, to Pasadena for the 1926 Rose Bowl game. He established a community in his name and got himself incorporated; he hobnobbed with high military brass and was a "dollar-a-year-man" even before Bernard Baruch and WWII; he walked more of the California desert than the legendary prospector "Pegleg" Smith and now owns a growing collection of 300 vintage autos; and for nigh on to 50 years he's waged an on-and-off quiet feud with his nearest neighbor — the Bureau of Land Management and its forerunning federal agencies.

Joe Chiriaco (*Shi-RAY-ko*, please) is big, strong, thick-set and looks 15 years younger than his age, which has to be on the far side of social security. He can be testy, but usually he's affable and good humored and becomes animated in conversation involving history, economics, current affairs, sports and General George S. Patton. Well-read, logical and expressive, he can be convincing on his political viewpoints. Joe may have slowed some in recent years. He logs more rocking-chair time and turns over many operations of the family corporation to son Bob. But Joe is still the power, and the power behind him is Ruth, his efficient, gracious and highly intelligent helpmate of 47 years.

Chiriaco Summit is one of only two huge fuel-food-service-lodging-souvenir establishments along the 100-mile run on Interstate 10 from Blythe west to Indio, California. On a high pass between the Orocopia Mountains on the south and Joshua Tree National Monument, the super truck-stop community is 20 miles west of Desert Center and 30 miles

uphill from Indio.

Joe had worked for the Alabama Power Company on TVA projects and soon gravitated to construction jobs in and around Los Angeles. In 1927 a friend got wind of the huge new aqueduct system that would bring Colorado River water to Southern California. Joe signed on as a

such transactions . . . at times." Returning he immediately bought 40 acres for \$10,000 from an old rancher on what was then termed Shavers Summit.

"Nearby was a two-by-four store the former owned called Utopia," recalls Joe. "Instead of south of us where the highway is now, the Atlantic

as the summit. It was some years before it was completed from Indio.

About that same time Joe met Ruth. Following a traffic accident he was carted into Indio Hospital for emergency work. His nurse was Ruth Bergside from Minnesota via La Jolla. In June, 1934, they were married and returned to the summit, where, according to Joe, they practically lived under the trees. Joe then built 14 cottages surrounding the store. He also remodeled the older store next door for a school. Teachers moved in from Mecca, and pupils were bussed in from the surrounding construction camps.

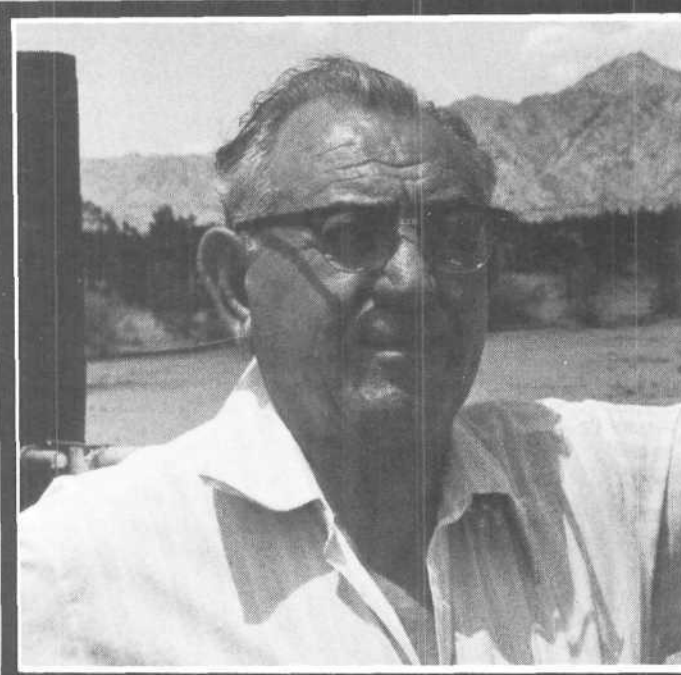
When aqueduct work slowed in 1938 and most of the workers moved on, there was no slow-down at the summit. That same year Joe became a "dollar-a-year-man." That was the salary he set for himself as clerk in charge of the summit Post Office. He also handled the Star Route between Indio and Blythe, including Desert Center, Gypsum Quartzite, Ripley, and Palo Verde. At the same time his driver delivered ice and milk at regular stops.

The Star Route was dropped in 1942 when he first heard there might be an army of GIs nearby. "I sure didn't want to be delivering mail to all those soldiers up and down the highway. I didn't know at the time that the army took care of its own mail."

Joe knew that the army had arrived early in March 1942 when someone walked up behind him at the bar and said, "How long you lived in this area?"

"See those Chuckwalla Mountains in the east," said Joe, "They were about two feet high when I first arrived."

The voice told Joe that he



*Joe Chiriaco has been the man at the top of the summit since 1932.*

chainman in a survey crew. He walked the chains up and down and across the desert for five years: from Riverside to Yuma to Bullhead to Boulder to St. George, to Needles to Fenner to Parker to Indio. By that time he was acclimated to desert living, and he knew the aqueduct routes and construction involved. When he was asked to head a crew on the Hayfield Tunnels northeast of his present place he turned down the job. Instead, in 1932 he went up to the Boulder and Los Angeles U.S. General Land Offices inquiring as to prospects of acquiring public land. "Even then," he says, "the government had a moratorium on

and Pacific Highway, such as it was, ran north, just below the aqueduct." Construction was about to begin on the aqueduct with several contractors sending crews. Large camps or dormitories were set up, 5-10 miles apart. By 1933 Joe had his water piped in from Lost Palm Springs about five miles north. He later added another pipeline and a 1,000-foot well. Soon about 100 families had built shacks along the road and canal. The gas station and store opened August 15, 1933 where the restaurant now sets. That day the new pavement that was to be US-60 and 70 was finished on the south side only as far



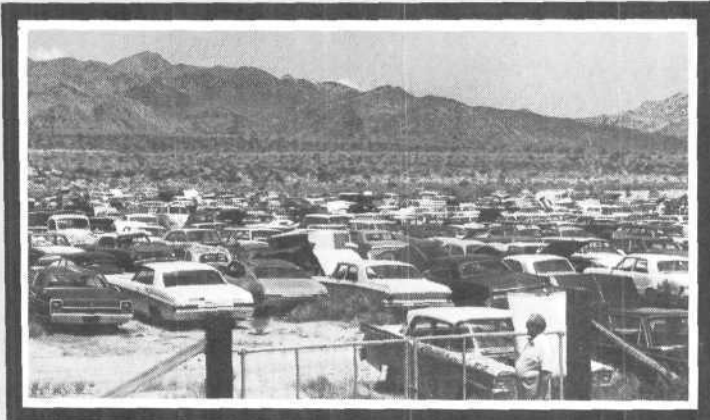
was serious and needed information. Joe says he turned around to see a stern looking officer in a neat uniform with lots of stars. For several hours Major General George Patton Jr. quizzed Joe about the surrounding desert, the availability of water, electricity and other necessities and told him some of his plans.

The desert sun hadn't scrambled Joe Chiriaco's business brain. The following day he emptied his large service garage. Then he went out and collected every case of beer he could buy from Blythe to Riverside and made solid contracts with all distributors and breweries. His warehouse was soon stocked to the rafters.

Within a month the first troops began arriving, not too happy about setting up camp in the middle of nowhere, which was about 50 yards west of the Chiriaco store. Camp Young had a population of almost 100,000 soldiers by fall and stretched from Joe's property line five miles west to Cottonwood Springs Road. Patton's headquarters was near the middle on the site of the Thompson-Sterrett construction camp. The Desert Training Center included several outlying camps, airfields, supply points and almost the entire California desert as maneuver ground. Troops to the right of 'em, P38s and P39s to the left, and guns and ammo in front of them across the road — the Chiriaco store was surrounded.

No complaints; Joe kept on selling beer at 10 cents a bottle. Unable to get into Indio often, the GIs wiled away their off-duty hours in Joe's bar or congregated in a wide ring of humanity surrounding the building. Joe set out beer by the cases and he sold peanuts and pigs' feet by the barrels. By 2 A.M. closing time, he said, the floor was a foot deep in shucks and bones. When the troops left on bivouac they lined up to buy cheese, bologna, soups, fresh fruit and such delicacies, leaving behind rations of canned meat and fruits that delighted the store personnel.

Patton and his staff came



Joe owns a growing collection of 300 vintage autos.

in almost every day. "He was a man of action," said Joe, "A man who lived up to his word ... an honorable straight-talking man; and he was human with a dry sense of humor."

Many soldiers came into the store minus ties or full prescribed uniforms. Since it was a public place the MPs notified Joe they were going to crack down or close him. Joe hiked over to Patton's tent and found the general prowling around outside with a pearl-handle revolver stalking rattlesnakes. He explained the problem.

"Don't worry about it," said Patton.

Next day Joe's establishment was declared "on-post," thus without the uniform restrictions.

The summit continued to boom after the war, but the emphasis turned toward tourists and truckers. Few travelers passed without stopping if they knew about the good spring water and Ruth's ham and eggs. Famous also were her roast-beef dinners with large helpings. Sebastian Cabot, the TV-actor, often stopped with his family and once consumed two full dinners.

Long before the freeway came through and the place became officially Chiriaco Summit about 1958, Joe and Ruth were raising their own help. Summers and after school and the long bus ride up from Coachella, the Chiriaco kids learned the business. Pauline, Margit, Norma and Robert put in long hours and often complete night shifts in the kitchen, waiting on tables or working the growing souvenir and antique stores.

Pauline and Margit finished their educations at UCLA; Norma and Robert went to Arizona Northern.

After graduation and a tour with the Air Force, Bob returned as general manager of Joseph L. Chiriaco Inc. in 1965. And there have been many other changes at the summit. In early post-war years they pumped about 10,000 gallons of gas per month. Now they surpass 100,000. In the 1930s there were 100 families in the community. Now the permanent population is Joe, Ruth, Bob, Margit and her two children, plus handyman Bob Howe, a WWI Marine from Oklahoma who loves to walk the desert. Also in resident are at least two dozen cats and half a dozen dogs. The workers live in Eagle Mountain.

Joe's outside activities beside construction have included a five dump-truck partnership operating out of Plaster City. His 300 autos? Mostly they're vintage junkers that he's purchased and hauled in — a 1915 Model "B" Ford, a Model "T" dump-

truck, a '32 Packard V-12, a '28 Essex in running condition and a '38 Cadillac that also runs.

Joe Chiriaco's problems with the government go back to the war years. He claims that in patriotic fervor he sold acreage for the landing strip to the Army for \$5 per acre, planning on being able to buy it back after the war. Trouble — no paperwork. In recent year's he's been miffed at BLM. He's long hoped to buy or trade for public land on the west that's blocking any chance for expansion or even adequate parking.

Joe fully understands and sympathizes with BLM on some problems. "When the Joshua Tree National Monument first started in 1934, I thought it was a crazy idea — all that land being protected from people when people need and have to have a place to go." He then began observing how people could harm the desert. "I saw the desert covered with tanks and men. Animals were killed and nests destroyed accidentally. In the Canyon behind me there were a thousand quail when the army came. When the army left there were no birds, no coyotes, only a few jackrabbits. This year I saw my first cotontail since 1942.

"Lately more and more people seem to be unthinking, cruel and purposely destructive. Look what they do to a parking lot or how they can ruin a rest room installed for their comfort. There have to be controls in the desert — but I don't know how. Maybe the whole thing is education."



In the fall of 1942 Camp Young had a population of almost 100,000 soldiers. Troops surrounded the Chiriaco store.



# THE DESERT ROCKHOUND

by James R. Mitchell

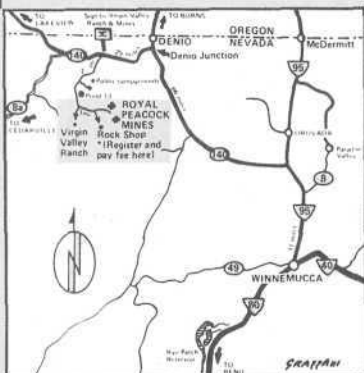
## Collecting Sites Update:

For a fee of \$10.00 per person, per day, you can dig precious opal at the famous Royal Peacock Mines near Denio, Nevada. Some of the finest fire opal obtainable anywhere can be found here, in addition to nice fluorescent and interesting dendrite material. The colors range from black to green, red, orange, yellow, violet and white, and it works up into beautiful polished stones. If you don't feel like digging, specimens, either rough or polished, can be purchased at the adjacent rock shop. There is good camping either at the mine itself or at the nearby government facility. For more information, contact Joy L. Wilson, Denio, Nevada 89404.

One of the best places in the southwest to obtain top-quality obsidian is only an hour's drive northeast of Bishop, California. It is a hill literally covered with fine, gem-quality material. Excellent mahogany, black, banded grey and black, and even some with a bluish iridescence can be found, much being facet quality. To get to this remarkable location, take US 6 from Bishop, through Benton, for about 38 miles to the California-Nevada border. Continue another two and one-half miles and you will see, on the north side of the road, a small guest ranch. Take the dirt road past it to the mountain, approximately one and one-half miles, to where the collecting begins. Prime material can be found all over the side of the hill and in many of the adjacent ravines.

I have been informed by the Silvery Colorado River Rock Club that the Copper World Mine is once again open to collecting. It was closed a few years ago when a group started mining its beautiful "Royal Blue" azurite commercially. Nice specimens of

malachite, chrysocolla and azurite can still be obtained by searching through the dumps and excavated areas. This has long been one of my favorite spots to find quality specimens of these minerals and I am very happy that rockhounds can once again collect here. To get to this well known location, take I-15, approximately 26 miles east from Baker to the Cima turnoff. Head north, bearing to the right, for about eight miles to Clark Mountain where you will find the mine at the road's end.



**Museums:** If in Tucson, Arizona, I recommend taking a few hours to visit the outstanding displays in the University of Arizona's Mineralogical Museum. Especially interesting is their exhibit of chemically identical minerals that occur in a variety of different forms. They also have an excellent display of Arizona rocks and gems, featuring exquisite copper varieties. It's a stop well worth the time for any rockhound.

**Warning:** According to Dr. Leland W. Marple, in an article appearing in the *Permian Faceter*, there are certain dangers to users of 100,000-grit diamond spray compounds. If you should inhale this materi-

al, there is a chance it could get into your lungs and, due to the microscopic size of the diamond particles, actually pass into the blood stream and eventually lodge in body tissue. There is no evidence as to the potential harm, if any, but he advises users to be most careful when spraying, being sure to get it on the wheel and not on yourself.

**Helpful Hint:** An article in the Wickenburg Gem and Mineral Society Newsletter suggests using a permanent ink, felt tip marker instead of the standard aluminum pencil to make guide lines on stones for cutting and grinding. It does not disappear as the aluminum often does, and is much easier to see. I have tried this technique and will never go back to using aluminum. I employ a fine tip marker and find it makes my grinding, cutting and shaping much more accurate. Beware that some water soluble coolants, however, dissolve the marks, but for the majority of lapidary projects, using oil or water, it works very well.

**Publications:** The California Division of Mines and Geology publishes an outstanding monthly magazine called *California Geology*. Each month there are articles covering a wide range of subjects, many of interest to the rockhound whether from California or elsewhere. The editorial content includes geology, mining, seismology, paleontology, mineralogy and other earth sciences. The annual subscription price is \$3.00 and I recommend it to those who would like to learn more about their hobby and would like to be kept up to date on some of the latest research. To subscribe, send your request and fee to the California Division of Mines and Geology, P.O. Box 2980, Sacramento, CA 95812.

**Shows:** The Southern California Federation of Mineralogical Societies will hold its 41st annual show, entitled "Days of Gems and Roses," at the Pasadena Center in Pasadena, California. It will take place August 1st through August 3rd and should be an outstanding event.

The Reno Gem and Mineral Society's annual show, "Jackpot of Gems," will be held from August 23rd through August 24th at the Centennial Coliseum in Reno, Nevada, and also promises to be an event worth visiting.

**Court Decision:** The Arizona Supreme Court has recently made a ruling that could have far reaching implications to people with mining claims. According to the *Rand District News and Miner*, the court ruled that in order for a claimholder to have exclusive rights to a claim, he must both occupy it and exhibit a "diligent search for minerals." The case was initiated by the Lucky Mc Uranium Corporation when Geomet Exploration Ltd. started prospecting on their claims. Geomet argued that Lucky Mc simply drilled ten-foot deep holes on each of the 200 claims it filed and did nothing more. They further contended that Lucky Mc was not occupying the claims nor had they discovered any minerals. Geomet, therefore, started their own search, finding uranium at some of the disputed locations. The court ruled in favor of Geomet, saying "a mining claim must be worked actively to confer exclusive possession on a claimant." Geomet was allowed to continue their operations on the lands, even though Lucky Mc had filed claim to the area three years earlier.



# DESERT CALENDAR

Listing for Calendar must be received at least three months prior to the event. There is no charge for this service.

**May 22 - Sept. 7:** Exhibition. Hopi Kachina: Spirit of Life. California Academy of Sciences. San Francisco, Calif. May 22 through September 7, 1980.

**Starting July 9:** El Paso, Texas, is preparing to celebrate its 400th birthday next year, but if your plans lead you to this West Texas-Mexican border city between July 9 and August 30 of this year . . . you can still catch a glimpse of the first 399 years with the outdoor drama, "VIVA! EL PASO!" The production plays Wednesdays through Saturdays at 8:30 p.m. between July 9 and August 30. Mail orders and ticket information can be obtained by writing: VIVA! EL PASO!; 1301 Texas Avenue; El Paso, TX 79901. General admission is \$2.50 Wednesdays and Thursdays, \$3.00 on Fridays and Saturdays. For further information: Robbie Farley (915) 533-1671.

**Starting July 21:** Four one-week sessions of Summer School sponsored by the San Diego Museum of Man. Classes will meet every day 9:30-3:30 p.m., for a week. Activities will include a wide variety of supervised anthropological activities, including making African masks, playing anthropological games, making Indian "fry" bread, and learning about the Hopi and other Indian tribes. Classes will be for 5-8 year olds and 9-12 year olds. Children should bring sack lunches. Early registration is a must. For schedules and registration information, call the Museum of Man, (714) 239-2001.

**August 1-9:** Eighth Annual Festival of the American West, Utah State University, Logan, Utah. The Festival is a recreation of frontier life as it appeared in the 19th century. For further information, write or call: Utah State University, UMO 14 R-107, Logan, UT 84322. (801) 750-1144 or 1145.

**October 4-5:** Manufacturers and exhibitors, along with visitors from out of state should make plans now for the 13th Annual National Prospectors and Treasure Hunters Convention at Follows Camp, Azusa, Calif. This location is 30 miles east of Los Angeles off I-10 or U.S.-66. Rig and Table displays are free on a first-come basis, with advance reservations required. Contact Jean Glick, Chmn., 21106 S. Denker Ave., Torrance, CA 90501. (213) 320-5061.

## Monthly Photo Contest Rules

Each month when entries warrant, **DESERT Magazine** will award \$25 for the best black and white photograph submitted. Subject must be desert-related.

### Here Are The Rules

1. Prints must be B&W, 8x10, glossy.
2. Contest is open to amateur and professional. **DESERT** requires first publication rights.
3. Each photograph must be labeled (time, place, shutter speed, film, and camera).
4. Judges are from **DESERT's** staff.
5. Prints will be returned if self-addressed stamped envelope is enclosed.

Address all entries to Photo Editor, **DESERT Magazine**, P.O. Box 1318, Palm Desert, CA 92261.

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### Hummingbird Feeder



# High Gold Prices Put New Life In Famous Homestake Mine

**Lead, S.D.** — A loaded 12-gauge shotgun hangs on a wall near the 1890 beam-balance scale in the old corrugated-iron refinery office.

Eino J. Mackie, 61, and Tom Guider, 58, are in the office hammering the Homestake Mining Company seal, a serial number and the year on 400-ounce gold bars.

It's all in a day's work for the refinery foreman and assistant foreman. They pick up the gold bars and walk a few feet into a century-old vault where the bullion is stored.

The two bars are worth more than half a million dollars.

These are busy times at the Homestake, a mine that produces nearly one-third of all the gold mined in the United States, the mine that has produced over \$1 billion worth of gold since 1876.

In the 1912 headquarters building of the Homestake Mining Co. on the main street of Lead (pronounced *Leed*), population 6,000, in the Black Hills of South Dakota, Al Winters, 40, general manager of the mine, talked about the effect of the soaring price of gold on his operation, and on this part of the country:

"We've been hoping something like this would happen for years. The price rise has taken us by complete surprise. It means now we can think in terms of preparing for the next 100 years, instead of the next one or two years.

"With the price of gold where it is we're planning major developments at the Homestake. We're going to make a new mine out of an old mine. It's going to cost a great deal of money. But we've got to pour money back into the mine if we want it here for years of profitable production."

Winters said that the plan is to spend \$6 million this year on development and new equipment, \$8 million next year and another \$6 million in 1982. Millions more will be spent on exploration.

"This mine should have been shut down years ago," Winters said. "It made economic sense to shut it down.

"But shutting down the mine was something the company avoided at all costs. There are a helluva lot of people that depend on Homestake for employment — 1,700 here at the mine.

"It had come to the point where we were planning to close down the operation. If the price of gold had not gone up, we would have been out of business within the next three to four years.

"So, we're collecting our thoughts and are gearing up to push forward.

"One of the immediate things is to get our mill up to capacity. It is now running only three-fourths capacity. In the next couple of months we will begin processing waste dumps in the area, the tailings from old mining to take up the slack.

"We estimate there are 5 million tons of tailings within a radius of five miles. The tailings, we believe, will give us about .03 ounces of gold per ton."

The coverall-clad miners descend into the bowels of the earth each day in rattling cages. They carry their lunch baskets and on their hard hats are miners' lights. Some of the men are fifth and sixth generation Homestake miners.

Ray Smith, 44, the mine superintendent, has long sideburns and a plug of Copenhagen chewing tobacco in his mouth. He sits on an open mining car with a knot of miners going to their diggings at the 5,300-foot level. Smith observed:

"It takes a special type of person for underground work. Last year we hired 700 new men. They work a few weeks to see if they like it, to see if the company likes them. Only 50 of the 700 stayed.

"Miners are self-starters. They work in two-man mining teams. They're paid according to the amount of

work they do. The harder they work the more money they earn. Today the miners are earning \$20,000 to \$30,000 a year."

Battery-operated locomotives buzz back and forth, clickety-clacking over 250 miles of steel rails deep in the tunnels of the mine. The trains carry miners to their work stations and haul ore to cages to be lifted to the surface.

The miners drill, blast and muck the rock for eight hours, perspiring profusely.

Huge steel bolts hold steel plates in place on the walls and ceilings of the tunnels and stopes (rooms) to prevent cave-ins.

Each day 5,000 to 7,000 tons of ore-bearing rock are blasted and hoisted to the surface by miners to be crushed by giant machines and treated with cyanide in the mill to dissolve the gold.

It takes about five tons of rock to produce one ounce of gold.

The mayor of Lead is Bolest (Jug) Jagodzinski, 65, a Homestake miner for 31 years.

John Finola, 80, has run a clothing store on the main street of Lead for 42 years.

"Lead has always been a good solid place to live and work because of the Homestake Mine," Finola said. "It has never been a boom town as such, or been in a deep depression."

— **Western PROSPECTOR & MINER**



Dear Sir,

Due to a money shortage it will no longer be possible for me to mail my gasoline payment so it will be necessary for a representative from your company to come to my house and pick it up each month.

I will be available from 6 a.m. to 8 a.m., and again from 2:00 p.m. to 4:00 p.m., Monday through Friday. I will not be available on weekends. Should your man encounter a line at my door, please advise him to be patient. Perhaps it would be best if he would come on odd days, as I have two other gas companies coming on even days, and preferably, before the 20th of the month, as my allocation of money will probably be gone by then. Also the bills may not be payable in full as I have allocated only 80 percent of my last year's salary toward current bills. (\$20.00 limit)

A green flag at my door indicates money is still available, a yellow flag indicates the doctor ordered me out on a camping trip to get away from the pressures of bill collectors, and a red flag means your representative is too late.

Thank you.

— **Bear Gulch Rock Club, Inc.**

## HOW TO SPLIT



## A ROCK

**Ontario, Calif.** — To cut native stones and rocks into smaller pieces needed for fireplaces, entrance markers and stone fronts, saturate a one-half inch rope with gasoline and tie it around the stone where the split should occur. Ignite the rope and wait until the brief, hot flame dies away. Strike the stone several sharp blows with a sledge hammer, following the charred mark of the burned rope. The stone will fall cleanly apart where the rope has been bound. For splitting smaller stones or breaking off small sections in a series of splits from a larger stone, an old clothesline will serve as well. Since the breaks are clean and follow the burning rope, much labor in dressing the stone is saved.

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#4108



What member of the lily family, growing in the southwest U.S., is used as an internal-external medicine, a cosmetic, a fashionable drink, and valued in gardens for its stately beauty?

## THE VERSATILE

# Aloe

by MARIAN SEDDON and  
DOROTHY PARCEL

book, "Aloes in Burns and Scalds," by J. E. Crewe, M.D.

A Riverside, California woman is convinced of *Aloe vera*'s effect on burns without reading any of the many aloe-praising articles and books. Her barefooted fifteen-year-old grandson, tending a 4th of July bonfire, unknowingly walked in kerosene. The soles of his feet suddenly were aflame. When the flames were extinguished, *Aloe vera* was immediately applied. In two hours the teenager was able to rejoin the festivities.

Yet the oldest use of this plant is not as a burn cure but as a laxative. Greek and Arab physicians of the 4th Century B.C. left writings expounding this use. And Roman writers Dioscorides and Pliny, and famed Roman physician Celsus, praised aloe as a laxative and also as a skin healer.

Today's veterinarians use the laxative and vermifuge called caballine or horse aloe, buying it mainly from huge plantations of aloe on the Barbados and Curacao Islands in the Caribbean, where it was first carried by slaves. Plants from this source are called *Aloe barbadensis*.

# U

NIL recent years the many uses for the gray-green succulent were little known except to Indians and a few botanists and herbalists. But with the spiraling interest today in natural versus synthetic products, *Aloe vera* is becoming known throughout the world. Nurseries banner it "The Medicine Plant" and lure buyers, young and old, into lugging home a graceful aloe to add to their gardens or to sit on their kitchen window sills ready for any emergency. Mail order sales of aloe products — gels, lotions, shampoos, ointments, bottled drinks — have more than quadrupled in the last two years. Many, though not all, such companies are southwest-based to be close to the supply. The Texas ranch of one firm boasts of "over 100,000 aloes."

Interest in a plant with attributes strikingly akin to the supposed benefits of elixirs once hawked by medicine show barkers is likely to continue to soar. For these claims, unlike medicine show cure-alls, are substantiated by documented laboratory research and the enthusiastic testimony of aloe users. Medicinal claims range from relief of pain and healing of burns (even X-ray burns) and ulcers including stomach ulcers, to eradication of

cold sores and poison oak rash. An even longer list of cosmetic uses includes being an effective shampoo, a skin cleanser and a scar smoother. Being non-allergenic greatly enhances aloe's merits.

What is not well known is that aloes are not native to the southwest. They were planted in the New World by African slaves and even earlier by the Spaniards. Wherever terrain and climate resembled their native Mediterranean area, aloes took root and spread. Later immigrants considered them natives and were entranced by the three to four foot vase-shaped beauty with its inflorescence (flower) varying from yellow to coral, adding a foot or more to the total height of the plant.

Fortunately for everyone, the sun-loving aloes will flourish in an imperfect setting. The two conditions they refuse to abide are standing water and icy winds.

# M

OST dramatic uses of aloes involve burns. The gelatinous inside of a split aloe leaf not only inhibits the awful pain but usually leaves no tragic scarring. That aloe dressings do not stick to burned skin is an advantage detailed in the

# T

HE complex alkaloid chemistry of aloe gel is still not completely understood. Researchers have found that aloes contain antibacterial properties called anthraquinones; aloins (Barbaloin and Isobarbaloin) which are purgative; and chrysophanic acid, a skin healer.

Ancient users, though ignorant of alkaloids and aloins, nevertheless valued aloe so highly that even after centers of civilization shifted to Western Europe, the plant was imported at great price. At one time the King of Socotra, an Indian Ocean island south of Arabia, cornered the market.

However, since aloe could not grow in Western Europe's cold, damp air they gradually fell into disuse. Then in the 1930s came X-rays and with them, the frightening, hard to heal, ulcerous X-ray burns. Medical researchers frantically reactivated aloe.

One of these early researchers was C. E. Collins. A commercial aloe gel sold today bears his name. With better X-ray machines and the easily synthesized antibiotics of the next decades, aloe use saw-sawed downward. Today with nuclear dangers,



# MOST DRAMATIC USES OF ALOES INVOLVE BURNS.

*Aloe vera should be at least three years old,  
preferably older, before its juices  
become most effective for healing.*

current interest in herbs, and the growing acknowledgement even among some physicians that healing cannot be left entirely to the profit-oriented drug industry, *Aloe vera* is better known than ever before.

## W


ITH interest snowballing, the many myths about aloe should be clarified. It is not true that *Aloe vera* or its twin, *Aloe barbadensis* are the only useful aloes among the over 200 varieties. While aloes are indeed mentioned in the Bible, they are from a totally different source — a resinous, sweet-smelling Judean gum tree — and were used as incense. A plant often confused with aloes are agaves, which are native to the New World. Both agaves and aloes are useful plants and somewhat similar in appearance, but there is no similarity in their chemical properties.

It is true that some aloes grow in Hawaii and the Orient, but the tourist who is urged to buy a plant and smuggle it through Customs is being hoodwinked. He or she could probably get a plant free from his neighbor or buy one for a few dollars at the nearest nursery.

## T

O grow your own outdoor aloe, simply give it cactus-like conditions. For best results indoors, fill your pot with two parts loam and one part coarse sand, broken brick, crushed limestone, and a little bone meal. Drainage is needed. After its flower becomes seed, mix the seeds with sandy soil for germination.

Desert dwellers in particular should know about aloe, for sun and dry air can be cruel to complexions. Aloe, in addition to its healing qualities, appears to soften skin, lessening and postponing wrinkles.

As researchers continue to explore natural products they will find new uses for this attractive member of the lily family. But even if never used as a medicine, salve, cosmetic or refreshing drink, aloes add dignified beauty to the gardens of the southwest. 



G. LYONS



# THE FLIGHT OF Willie Boy

## A Saga of Desert Survival

by T. C. WEIR

*There is something about the California Desert that prompts men on the run to seek her sanctuary. Joaquin Murrieta, a Mexican bandito of an earlier time, used her boulders and ravines to hide from the law for many months. The infamous Manson Family headquartered in the desert, as did Al Capone, way back when. Even now, it's a rare year that some desperado does not flee to her anonymous stretches, hoping to dodge lawmen on the hunt with horses and 4WDs and, lately, helicopters. Of all who have sought her refuge, though, none looms more boldly in our desert lore than a young Paiute Indian called Willie Boy.*

**B**olstered by stolen whiskey and blinded by his love for a young Indian girl named Lolita, Willie Boy, on a hot September night in 1909, shot



**Willie Boy posed in his Sunday best for a Banning photographer just a few days before he murdered old Mike Boniface.**

and killed Lolita's father, and then fled with her into the wilds of the Mojave Desert. There, armed only with a Winchester rifle, plus a keen knowledge of desert survival, Willie Boy eluded capture for nearly three weeks. Unmatched in duress to this day, that sojourn earned for Willie Boy a permanent place in the history of the California Desert.

Had he not run, but surrendered or been captured at the scene, it is doubtful the Indian would have been given more than a mention in the local press. Murders were then, as now, common events and Indians were often afoul of the law. The killing of an Indian by another Indian in 1909 would have hardly raised an eyebrow, let alone gain national attention.

But Willie Boy decided to run and men like to chase after running prey, especially prey that is cunning and dangerous. So when word spread that Old Mike Boniface, a Chemehevi Indian, had been shot dead under his own blanket and his daughter taken captive into the desert, men began to saddle up and load up and move out in what was to become one of the biggest manhunts in the history of the Old West, and one of its last.

By 1909 the Old West as we see it today in movies and on television had all but vanished from real life. More and more, people were becoming citified. They moved about in motorcars, dressed like dudes, built houses complete with inside toilets that flushed. Change was in the air, progress ran at full throttle. To try to hold onto the dying past meant only to die with it.

PHOTOGRAPHS COURTESY OF HARRY LAWTON  
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Then the Willie Boy saga exploded and for one brief moment the Old West was born again. Men on horseback, with guns and grit and a sense of law and order, Western Style, arose like phantoms from the past to ride once more across the open range.

**W**illie Boy was in the truest sense a desert Indian. Born in Pahrump, Nevada, he migrated with his family to an oasis at Twentynine Palms, California. There he learned to shoot and hunt and ride a horse with amazing skill. He was a runner, too, and one of the best baseball players in Banning, California, an important desert farming region and the scene of his treacherous murder of Old Mike.

As with other Indians of that area, Old Mike and his people were in Banning to work the almond harvest. Willie Boy was working the ranches, too, but his real reason for being in Banning was because Lolita was there. He loved her very much.

Marriage, though, was forbidden. Distantly related, such a union would have been considered heinous among the Indians. Willie Boy knew this, but he either did not agree with it, or felt it unimportant in light of the love he had for the girl.

He thus ignored Old Mike's warning to forget his daughter and leave her alone. Instead, he captured her and took her away. Marriage by capture, an ancient custom among Indians of that area, was rarely practiced in Willie Boy's time. That he used it clearly showed the lengths he was willing to go to possess the girl.

When Old Mike discovered his daughter had been taken by Willie Boy, he quickly tracked them down and recaptured the girl. By custom, he would have had the right to kill Willie Boy, but because of past friendships, he merely upbraided him and returned with Lolita to camp. This was his fatal error. In three months' time, Old Mike himself would be dead and Lolita would be, once again, Willie Boy's captive bride.

The California Desert can be a deadly adversary. Caught beneath her sun without water or proper covering, she can kill you in less than a day. Wander too far from road or house or other landmark, she'll trick you into vertigo, then bake you to death while you dig at her sand for water. Decline to rest in whatever shade she provides, she'll oblige your foolishness with a forced march through her burning hell. Never take the desert for granted, never think to deal with her on any terms but hers.

Willie Boy had respect for the desert, both as friend and as adversary. He had walked her many times, hunted her game, drank from her springs, slept upon her shifting sands. He had been whipped by her windstorms, broiled by her sun. He knew the wrath of her winters and the fierceness of her flash floods, one of which had swept his own parents to their deaths when Willie Boy was but a child. He knew

what he could do with her and what he could not, so he trusted her to help him escape.

**T**he pair were able to gain a good six hours on any one who chose to follow them. Fearing death, too, Old Mike's family had waited that long to report the killing to authorities. Still, Willie Boy took no chances. Keeping well out of sight of the main roads, he made his way with Lolita through the draws and canyons that bordered the high deserts of Morongo



**Segundo Chino, an Indian tracker, was a member of the posse and a hero of the ambush.**

Valley and Yucca. Three days later, they reached an area called The Pipes. There Willie Boy risked a campfire to cook a rabbit he had shot.

Trackers, arriving at The Pipes the next day, found the campfire still warm. Encouraged, those who could pushed on, confident that Willie Boy was just ahead.

He was also in trouble. While his tracks were steady and sure, it was apparent that Lolita's were becoming scuff marks in the sand. She was either resisting or tiring out. Whatever, her reluctant steps were sure to slow Willie Boy down. Taking heart in this knowledge, the men bedded down for the night, certain this matter with the Indian would soon be settled.

Having breakfast before sunup, the men were back on the trail by dawn. Happily, it read the same as yesterday. Lolita was holding Willie Boy back. His quarry had

become his snare.

The men grew silent as they gathered at the top of a ridge and looked down. Only the careless squeak of saddlery and the occasional snort of a horse broke the stillness. At the bottom of the ridge, sprawled face down across a boulder, Lolita lay dead, a bullet in her back.

To the men in pursuit, Lolita's murder was further evidence of Willie Boy's savagery. A hindrance to him now because of her fatigue, he had cut her down to save himself. To the Indian, though, her killing was an act of mercy, to save her from being taken by white men. To Willie Boy, Lolita was his wife. If he gave her up to the white man, he would, in effect, be giving up himself.

Regardless of his motive for killing the girl, her death did spread the distance between himself and the posse. Not only could he move more swiftly now, the posse

was forced to turn back for the moment to bring Lolita home. Thus Willie Boy gained an extra edge. But had they not returned with the girl, coyotes would surely have devoured her.

**M**eanwhile, those hunting Willie Boy grew from a local constable with a handful of men to two sheriff's departments from as many counties, the Bureau of Indian Affairs, dozens of white men, several Indian trackers, Banning Reservation police and wagons loaded with provisions for several days of desert pursuit. Dispersed at different times and to different areas where they thought Willie Boy might be heading, the manhunt grew to monumental proportions. With the murder of Lolita, it also grew into a grim resolve.

Until Lolita's body was brought back to Banning, the newspapers had given the manhunt little attention. With this new outrage, however, black headlines began to emerge, exploiting Willie Boy as a mad killer on the loose. Localized at first, the story was eventually picked up by the wire services and soon the whole nation was following the manhunt. It was as if people everywhere sensed in this final struggle of the past to live, an excitement all wanted to share.

Willie Boy's main concern, though, was not in headlines but in survival and eventual escape. He felt that if he could reach the oasis at Twentynine Palms, his people would provide refuge, or a horse and supplies for further flight.

When he reached the oasis, exactly one week from the night he killed Old Mike, he found it deserted and stripped of everything he could have used to aid his escape. Everyone had fled to the Banning Reservation for safety, fearing that if Willie Boy came to Twentynine Palms, he would kill them all.

Denied their support, Willie Boy's spirit withered. He glanced about him, appalled



at the devastation he had caused; remembering, perhaps, happier times when, as a teenager here, he had had some hope of a meaningful life. It was gone now, gone forever. He checked his rifle, counted his rounds, then turned resolutely back toward the desert wastes that had so recently shielded him. Now they were soon to witness his death.

A full four days after his visit to the oasis, Willie Boy reached Ruby Mountain where he decided to make his stand. He found a natural barricade along the mountain which gave him full view of anyone who

handcuffs and shattered his hip. He lay in the open, face up, blood pulsing badly from his wound.

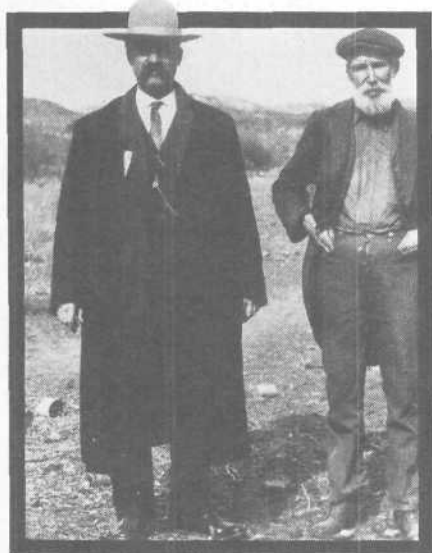
The men, now under cover, began firing randomly at the barricade. But only now and then would Willie Boy fire back. When one of the Indian trackers dashed away for help, Willie Boy danced bullets after him, but always off target. It was peculiar response from a man fighting for his life.

Peculiar, too, was Willie Boy's decision to kill the horses instead of the men. He could easily have gotten them all, taken one of the horses and what supplies he

descended. "He's shot himself." But the men would not wait to find out.

A week was gone before another posse went back to Ruby Mountain to try to pick up Willie Boy's trail. The trail, though, went no further than the barricade. Willie Boy had, indeed, taken his own life.

So ended the manhunt. So closed an era. Much was made of the matter. A play was written and performed to packed houses. Ruby Mountain was renamed Willie Boy Mountain. Two sheriffs were re-elected on the strength of the hunt, a Reservation superintendent lost her job because of it



**Riverside County sheriff Frank Wilson (left) led the first and then the last Willie Boy posses.**

approached from below. There was only a distant willow thicket behind which his attackers could hide. From this vantage point, Willie Boy waited and rested and considered his plight.

**A**fter two weeks and 500 miles of desert torment, he was too tired to run anymore. But even if he had the will and strength to go on, where would he go? And who was there to help him? He had killed the only thing he loved and unleashed upon himself, it seemed, the anger of everyone who knew of his deed. He had no will to move ahead, or even think ahead. It seemed the desert had beaten all of that out of him and left him a mindless form without the power to determine any part of his destiny.

The five men who broke from the willow thicket had but a moment to evaluate the barricade above them before Willie Boy opened fire. Dropping one horse, spooking a second, then dropping three more, Willie Boy had every man unhorsed and running for cover before any of them could draw a gun. It was the fight all of them had been waiting for, but not one had been prepared.

During the fracas only one man, the leader, was shot. The bullet that was meant for his horse had glanced off the tracker's

needed and made good his escape. With two murders already against him, why should he balk at further killings?

To the men who crouched below the barricade, such restraint seemed illogical. To Willie Boy, who waited above, it was the only option he had left, seeing that he was already dead.

When a man dies, he dies first in his mind, regardless of how soon or late the physical death follows. So with Willie Boy. All he needed was time to carry out the physical act. Pinning the posse down would give him that time.

**W**hen darkness came, the men decided to give up the vigil and take their wounded leader back down the mountain to medical aid. The Indian could wait, they surmised. As they eased the pain-racked man onto the only surviving horse, a rumble of rocks was heard from above, then a single shot cracked through the air.

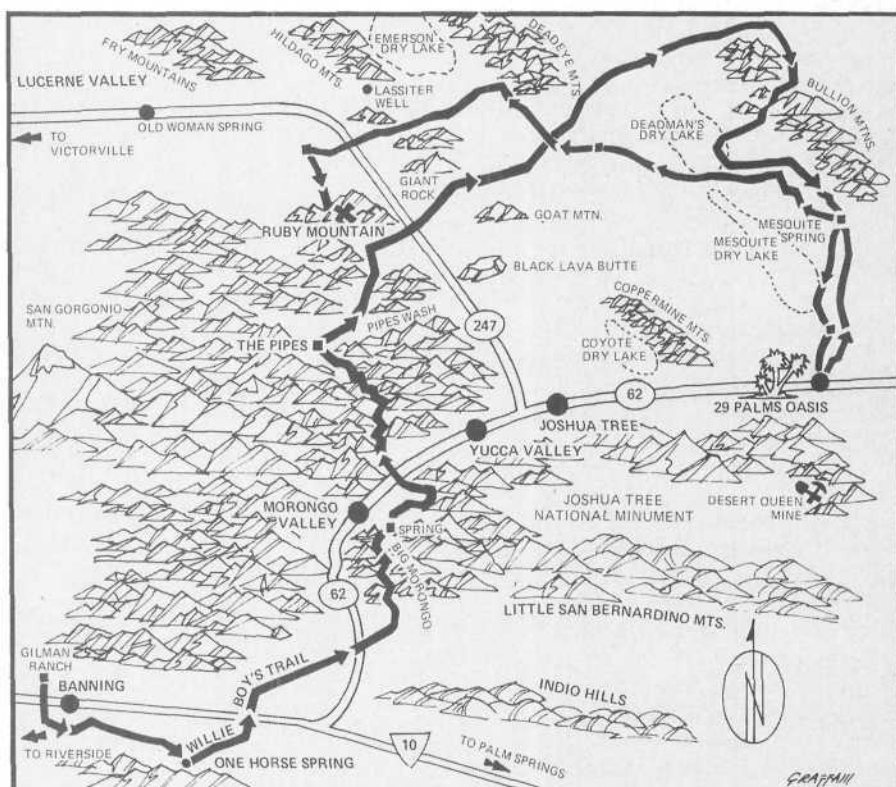
"He's dead," someone whispered as they

and a young reporter made a name for himself by his coverage of the struggle.

Fifty years were to pass, though, before any valuable narrative was produced. Harry Lawton's "Willie Boy, A Desert Manhunt" (Paisano Press, Balboa Island, Calif., 1960) is a stirring, yet objective account of the event. From this came the movie, "Tell Them Willie Boy Is Here," starring Robert Redford with Robert Blake as Willie Boy.

As for Willie Boy himself? Though the desert would not give him the life he bargained for, she did provide him with an immortality that reached beyond the finite survival of the flesh. She found a niche for him in history's walls and placed him there as she had placed him in the crevices and crannies of her trackless landscape.

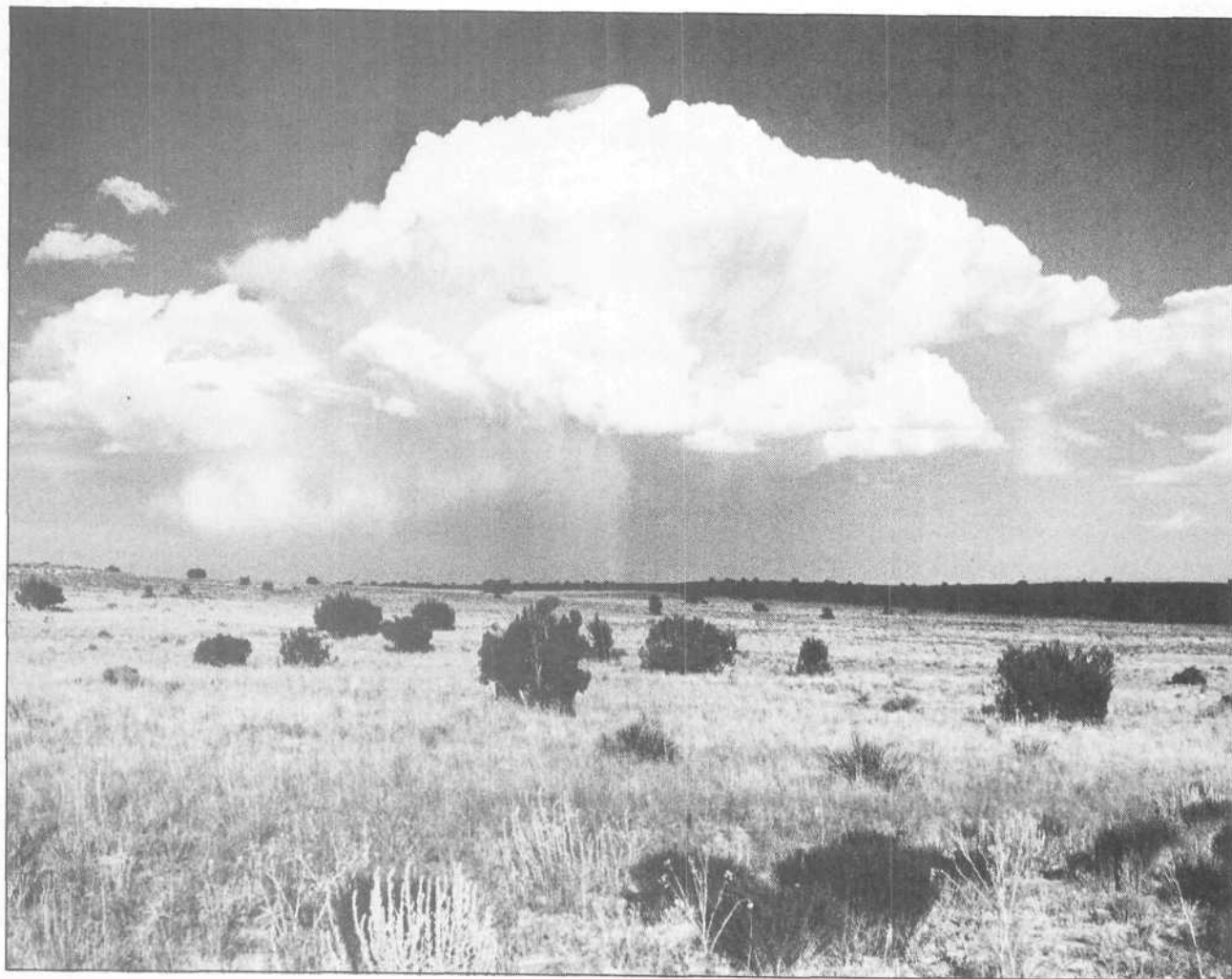
It was a reward he had not sought, an honor he had not considered the night he ran to her for hiding. But then, no man on the run wants any more from the desert than a place to run and hide. Fame is just something extra, sometimes thrown in and sometimes not. **Z**





# Desert

PHOTO CONTEST



*Rain Cloud*, West-central New Mexico, July, 1979 (about 5:00 p.m.)  
Nikon F camera, Tri-X film, F16, 1/60 second

**MARJORIE McCLOY**  
*San Francisco, California*



# ENERGY FROM THE

by Dave McNary

## A Status Report on Solar One

A precursor of practical solar power plants all over the southwest desert country now stands partially constructed amid the creosote bushes near Daggett, twelve miles southeast of Barstow, California.

Known as "Solar One," it is a 10-megawatt (10,000 kilowatt) receiver pilot plant. It will use 1,818 mirrors to focus sunlight on a boiler atop a 300-foot tower and produce steam for electrical power through a turbine generator.

When it goes into operation in October 1, 1981, Solar One's impact will stretch far beyond providing additional electricity for California. Southern California Edison, for example, plans to use experience from Solar One to help build enough solar power plants to provide 700 megawatts by the year 2000. The commitment by Edison is solid enough for Joseph Reeves, program director for the utility and its associates in the project, to say, "We're in a position where this has got to prove out."

Edison joins the U.S. Department of Energy, the Los Angeles Department of Water and Power and the California Energy Commission as the builders and operators of Solar One. The total cost will be an estimated \$139.5 million. It is the first such plant of any significant size in the world.

That cost means a lot of money producing very little power, but it also pushes solar power toward becoming financially competitive with other forms of power generation. "Right now, it's unfair to characterize Solar One as economical," Reeves admits, since the cost is about \$14,000 per kilowatt, as opposed to about \$1,200 per kw from a state-of-the-art coal or nuclear plant. "It's a research project. It's not intended to be economically competitive," he adds.

However, with mass production of the components, the price could drop into the \$2,000 to \$3,000 per kilowatt range, Reeves says. Use of "repowering" a solar facility by combining it with other power generation at the same site when the sun goes down could drop the price to as low as \$1,500 per kilowatt. "It doesn't seem insurmountable to get that price down to where it is competitive," he says, noting that the costs of other forms of power will continue to rise. Sandia Corporation studies show the costs of solar power reaching a cross-over point with coal between 1985 and 1987, Reeves added.



Utilities plan to operate repowering projects by 1985 and "stand alone" solar projects by 1994. Edison specifically plans seven 100-megawatt plants for between 1994 and 2000, each using a 1,000-acre desert site.

And it's not surprising, then, that a team of researchers, headed by Professor Frederick Turner of UCLA, has been commissioned to study the environmental effects of Solar One. Clearance of the 130 acre site began last fall, but most of the crucial tests won't even start until 1982, Turner says. The group began work in 1978.

Turner adds, "There are no precedents for this kind of investigation." He declines to speculate as to what environmental effects may result from the project, other than general statements like, "The main effects probably will stem from the loss of water, and waste heat from the cooling tower." Also due for study are the effects of glare on aircraft and the hazard, if any, to plant and animal life, and the capability of local water supplies to support a plant of this kind.



For Solar One, the specific plan is for water in boiler tubes to be heated by sunlight reflected from the heliostats. The diameter of the boiler will be 23 feet and the tube pannels on it will be 45 feet long, with each containing 70 half-inch diameter nickel alloy steel tubes.

"The technology we're using here is a once-through system, which means water comes in the bottom and steam goes out the top," says Reeves. "It's a little more difficult to control than some other kinds of boiler concepts, but we have plants

operating on our system that are once-through units. Certainly, the turbine generator is nothing new to us. The thermal storage is really nothing more than a big tank filled with oil, crushed granite and sand. The energy will be stored in that in the form of hot oil and hot rocks and the energy will be withdrawn as we want to operate after the sun goes down."

The heliostats themselves will be adjusted continuously as the sun moves. Each is supported on one central foundation and is designed to withstand winds of up to 35 miles per hour while reflecting the sun. The heliostats can be stowed in a face-down position during wind and rain storms. Reeves indicates the mirrors can withstand a 90 mph wind, which is above the maximum for the area, in the stowed position.

"The only thing really new is the complexity of controlling the plant, which is what our master control system does. It's a series of computers that will make all these systems work together and will individually control each and every heliostat. So the whole thing is not beyond the fringes of current technology," he says. "What's new here is to try and put them all together and make them all work in a new way."



Two nine-month delays have pushed the Solar One completion date back to late 1981, and they are the reason that the project cost estimate rose recently from \$123 to \$139.5 million, Reeves says, in addition to inflation. First, in early 1978, President Carter pulled the federal funds for Solar One out of the budget, although Congress restored the funds later that year. Then in late 1978, difficulties arose between the Department of Energy and McDonnell Douglas over the contract for the integration work. And at this writing, Congress once again is considering rescinding Department of Energy funds for Solar One.

However, the project has remained on schedule in recent months and officials are confident it will stay at the \$139.5 million price. The capital cost contributed by the utility consortium is about \$21.5 million, while the Department of Energy supplies the rest. When complete, the Department of Energy will own the solar portion and the non-solar portion will be jointly owned by Edison (80 percent) and the Los Angeles Department of Water and Power (20 percent).



# SUN


Site clearance started last September and sloped the ground slightly north toward the nearby Mojave River. First construction began in January; the heliostats' concrete foundations started being installed in March. The visitors' center, located about a mile south of the plant, should open in mid-July. (Visitors won't be allowed on the site itself for safety and security reasons.)

Construction of the receiver tower should begin in late summer or early fall and the heliostats will start appearing in late fall. At the peak of construction between next January and June, there will be as many as 300 full-time workers on the site, according to Terry Earl, field officer and administrator at the project site.

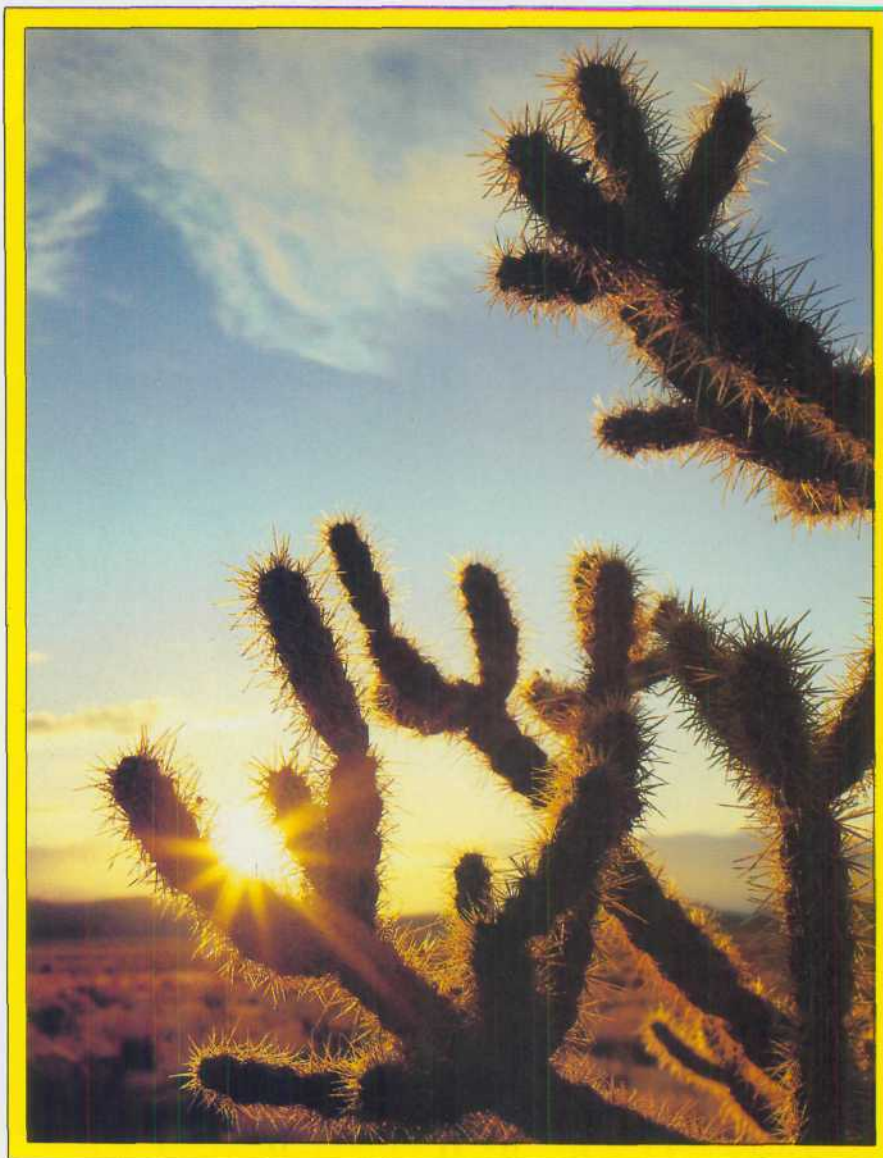
Obviously, the situation for many is temporary, since Solar One will employ only 35 people once operations start. But Earl says morale is high. "There's a lot of excitement and optimistic feelings about what we're doing here, but at the same time, I have to admit that we're a little bit reserved because it is a first-time thing and the government's putting up a lot of money. Obviously, the thing's not near as efficient as a gas turbine plant, a coal plant or even a hydroelectric plant. In other words, it seems like we're spending a lot of money to get a little, but if we learn something, make some big leaps forward, it's going to be well worthwhile. Sure, it's a big initial cost, but then all you have is operating and maintenance costs. Our fuel has gone up well over 1000 percent over the last few years."



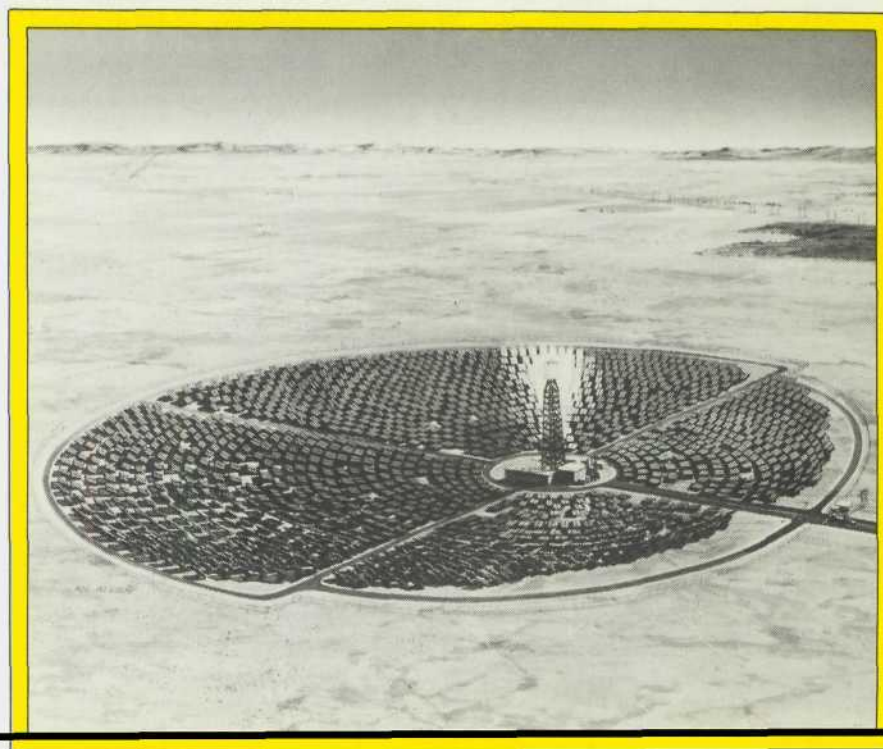
The plant design calls for full output of 10 megawatts for four hours on the worst solar day (December 21) and approximately eight hours on the best solar day (June 21). With an annual rainfall average of 3.7 inches at Barstow, clouds should not be a major problem.

Those associated with Solar One avoid long-term speculation as to just how successful the project will be. But they obviously believe it will mark a turning point in power generation for this country. 

*The cholla above symbolizes each of Solar One's 1,818 man-made mirrors reaching out to the sun for energy.*



JEFF GNASS



ARTIST'S RENDERING COURTESY SOUTHERN CALIFORNIA EDISON CO.





# THE LIVING DESERT

## Wings For More Than Flying

by Susan Durr Nix

If bats were beautiful, bat apologists would have an easy time convincing us that these animals should be left to their upside-down devices. But beauty is not the prerogative of all animals, especially of web-winged, smelly, chittering, beady-eyed, erratic creatures of the night. A bat's skin, particularly his wing membrane, is not pretty. Fortunately for bats, there is in nature no absolute correlation between beauty and function: that same naked wing is an extraordinary machine — a combination catcher's mitt, blanket, air conditioner, swim fin, obstetrical instrument and efficient tool for flight unique among mammals.

The pygmy canyon bat or Western pipistrelle (*Pipistrellus hesperus*) of the Southwestern desert is so small it looks as if it might be a mouse with wings, but it is not a rodent. At elevations below 5,000 feet where creosote bush dominates the landscape, this is one of the most common bats. It is the smallest in North America, with a wingspan of barely six inches and a body about two inches long. Like most desert creatures he is light colored, but he is easily recognized by his contrastingly dark wings and ears.

Curiously, bats are not related to birds even though they both fly. They do have in common that their very different ancestors were too heavy to fly; however, the evolutionary solutions to this problem were not at all alike. Birds attained the requisite lightness with hollow bones, the loss of some or all of their teeth and through the fusion of hand bones into a rigid support for feathers. Bats needed teeth to eat insects and flexible hands for wing support, hence these developed at the expense of the leg bones which are so short and slender that, with the single exception of the vampire bat, they can't support body weight. Consequently bats must hang by their toes or wedge themselves sideways into small crevices that support the body. The wing bones are also slender and light, while the rubbery wing itself is so thin the muscles and circulation are visible.

Another dramatic difference between the two animals is that a bat's wing, unlike a bird's, is attached along the entire length of the body, including part of and sometimes all of the tail. When the tail is fully joined, as it is in the pygmy canyon bat, and is held forward, a useful little pocket is formed. Insect-eating bats literally catch their prey on the wing. Although they fly with mouth agape, it is the rare gnat or moth who is so

accommodating as to fly right in. Instead, the bat uses its flexible wing tip just like a baseball mitt to scoop up the insect. A quick transfer from wing to pocket holds the insect until the bat is ready to eat. High-speed photography revealed this behavior which is otherwise too fast to see.

During birth, the pocket plays a different role. Most species of bats produce one young a year; the pygmy canyon bat bears two each June. If ever there was a clear case of laboring under a disadvantage, it's the thought of an upside-down bat giving birth. But actually, the position she chooses



KAREN SAUSMAN

— hanging by her thumbs — is quite practical. The babies are caught in the pocket as they emerge from the birth canal, and it's then up to them to crawl up the mother's body and start nursing. For the next week or two, the mother bat's wings double as a blanket, gently enfolding her young and keeping them warm. The babies cling to her even during foraging flights until they are old enough to be left on their own between feedings.

Our image of millions of bats overwintering together on the ceilings of caves is typical of colonial species that hibernate. The canyon bat is not a social animal — in fact for a bat, he's a loner, particularly in winter when he enters a torpid period akin to hibernation. At this time, when his metabolism slows and he is at rest, the bat's wings insulate him from the cold. Wing muscles draw the membrane into puckers against his body, creating a cocoon to conserve warmth and moisture.

"Fledermaus," the German word for bat, translates as "flitter mouse," a particularly apt description of the weak and erratic flight of pygmy canyon bats. They aren't strong enough to combat more than a

slight breeze in flight and a heavy wind keeps them from foraging altogether. The sudden appearance of these bats in the middle of the desert, twenty or more miles from the nearest rocky outcrop, tree or building, has prompted speculation that they may roost in kangaroo rat or other rodent burrows. Such a hole would provide necessary protection from the drying heat.

Heat is also a problem in flight. A foraging bat, maneuvering swiftly to catch insects, raises his body temperature and in a hot climate this can be critical. Once again the wings come to the rescue by providing a large surface to radiate heat from the body back into the air.

A bat locates his prey not with his eyesight, which is rather poor, but by means of echolocation. Twenty to thirty high frequency cries are uttered per second by a foraging bat which is why he flies with his mouth open. The sound waves bounce off solid objects and travel back to the bat's ears where the faint echos are analyzed. This analysis is sophisticated enough to differentiate between the texture, wing beat frequency, flight pattern and speed of a tasty insect and one that is disagreeable. Although it is theoretically possible for fine strands of hair to absorb his echolocating cries so he isn't aware there is a hazard ahead, hair itself is not a bat-attractor. This fear, coupled with the dread of rabies, accounts for most negative reactions to bats.

Rabies is a serious disease and bats do carry it, but the pygmy bat needn't cause undue anxiety. He has such small teeth and weak jaws that his bite probably wouldn't even break the skin of a human being. Prolonged contact with a bat's waste products can transmit the disease, but the roosting habits of this species make such contact unlikely. Bats seem to be the only animals able to survive rabies, which answers the question, "If a bat is infected, why doesn't the disease kill off the whole colony?"

In the desert, snakes, owls and perhaps other raptors prey on canyon bats. The bats themselves prey on enormous numbers of insects. Their help is essential in keeping insect populations in check and in maintaining the balance of nature. There are no bats on exhibit at this time at the Living Desert Reserve, but the story of this interesting and helpful little animal is included in the educational programs the Reserve offers to school children throughout Southern California.

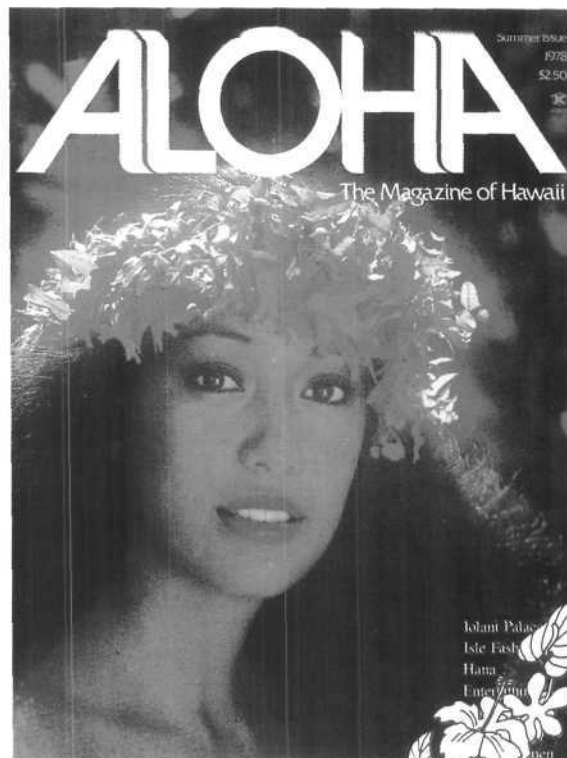


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# CHUCK WAGON COOKIN'

## Hamburger

by Stella Hughes

**R**ecently, while browsing through a real slickie food magazine that was tossing kudos or panning various eateries in a large city, I read, "Fare ranges from the simple appetizer or lowly hamburger to a full-course meal." Well, there may be plenty of simple appetizers, but there's no such thing as a *lowly* hamburger. Hamburgers are always super fare. If not, it's the cook's fault, not the hamburger's.

There's no other meat that has so much going for it as hamburger. It can be used in a hundred different ways, from a quick-an'-easy cookout to company dinner. In fact, hamburger can put on just about any face a good cook wants it to. It can be served solo on a bun, or you can mingle it richly with vegetables, cheeses, sauces and spices. Change its shape and you change its name. It's a Sloppy Joe! It's a meatball! It's a meat loaf!

From a humble family food noted for its economy, hamburger has blossomed into a great American tradition, even more American than apple pie. I hate statistics and I don't intend giving a bunch of them now, but maybe a few tips on buying hamburger wouldn't be out of place for those readers who may not have given hamburger much thought, except just liking 'em.

*Ground beef* bearing the label of hamburger can by law contain up to 30 percent fat. This fat consists of the natural fat attached to the beef, plus "loose" fat. Which means suet or what-have-you.

*Ground beef* (not hamburger) may also contain 30 percent fat, but the fat must be *only* that which is attached to the meat. In other words, it had to form right along with the lean while the steer was growing up. No other fat may be added to reach this 30 percent level. Thus the fat content in *ground beef* is usually less than 30 percent fat. Viva la difference!

Next comes *ground chuck* (meat from the shoulder) wherein the fat level is usually 20 percent. This type is best suited for most ground beef dishes.

*Ground round* (steak) is the leanest of all ground beef and perfect for calorie watchers. Ground round usually contains about 15 percent fat.

Which one is for you? It all depends on the recipe and your budget. For the juiciest hamburger, use ground beef or ground chuck. The amount of fat in both allows the burgers to baste themselves. The leaner the burger, the less juicy it will be. But remember, the more fat, the more shrinkage.

And then there's the cost. The more fat, the lower the cost. *Ground chuck* and *ground round* are more expensive because of all the other (and more costly) uses the butcher has for them. But no matter which label you buy, all ground beef should have a nice bright color. And not from red fluorescent lights hidden in the meat showcase, either! You think no butcher could be so unscrupulous? The heck they can't. I know of two meat markets in nearby towns, one with red fluorescent lights inside the meat case while the other has red fluorescent lights in the ceiling *above* the meat counter. It reminds me of the old saying: "Turn on the blue light, Sam, the man wants a blue suit."

I've nothing against a merchant displaying his wares to advantage, but these red lights do seem to smack of false advertising. But then, I guess, so do lipstick, rouge and eye makeup.

Seasonings for hamburgers are so numerous I'll only list a few you may not have thought marriageable material for hamburgers. How about a few snipped chives along with the usual seasonings? Have you ever tried a little dry mustard with a pinch of oregano or parsley? Worcestershire sauce with a tablespoon of horseradish and some crumpled blue cheese? Why not try a few drops of liquid "smoke" on barbecued hamburgers? Then there's sesame seed, chopped ripe olives, chopped dill or pickle relish, chili powder, and a bunch of spices such as nutmeg, sage, thyme, basil, allspice and curry powder. Start with a small amount and increase until you find the just-right flavor level. But for heavens sake, don't try too many all at once!

Betty Crocker's "Hamburger Cookbook" gives about the most mouth-watering array of recipes for hamburgers you'll find anywhere. You should try *Taco Burgers* by using a package of taco seasoning mix, and topping the burger with a thick slice of ripe avocado. *Chili Cheese Burgers* call for chopped green chilis and cheddar cheese, along with the usual chopped onion, garlic salt and pepper, and *Supreme Burgers* use one envelope of onion soup mix, plus one cup dairy sour cream and a half cup of dry bread crumbs. *Crunchy Teriyaki Burgers* require some soy sauce, a half cup of chopped water chestnuts and a pinch of ginger.

When preparing hamburger patties always handle the meat with gentle loving care. Too much handling gives burgers a compact texture. When broiling or panfrying, gently turn meat once during cooking, and never, never, press burgers with a spatula so all the lovely, nutritious juices pour out onto the coals.

### Cheese and Beef Burgers

Salt to taste

1/4 cup catsup

1 tablespoon finely chopped onion

1/2 teaspoon dry mustard

1 cup (4 ounces) shredded sharp process

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#### American cheese

1 pound ground beef  
4 hamburger buns, split and toasted  
Combine catsup, onion and mustard. Add cheese and ground beef; mix well. Shape into 4 patties. Grill over medium heat about 6 minutes. Turn and grill 4 to 6 minutes more, or until of desired doneness. Serve in buns.

A sauce for hamburgers that is a real taste treat can be made by combining:

2 tablespoons margarine or butter  
2 tablespoons chopped onion  
2 tablespoons chopped green pepper  
1/2 cup catsup  
2 teaspoons cornstarch  
1 teaspoon Worcestershire sauce  
1/2 cup beer  
1 teaspoon salt  
Melt margarine or butter; add onion and green pepper and cook until tender. Combine catsup, cornstarch and Worcestershire. Stir into vegetables. Add beer. Heat and stir just to boiling. This sauce can be used on barbecuing hamburgers during cooking or spooned over hamburgers, hot, after placing on bun.

#### Reuben Ground Beef Sandwich

1-1/2 pounds ground beef  
1-1/2 teaspoons salt  
1/8 teaspoon pepper  
16 slices rye bread with caraway seed  
1 cup Thousand Island dressing  
8 slices (1 ounce each) Swiss cheese  
1 cup sauerkraut  
Combine ground beef, salt and pepper and divide into 8 equal portions. Toast slices of bread on both sides. Spread each slice with 1 tablespoon dressing. Arrange 8 slices, dressing side up, on baking sheet and top each with 1 slice Swiss cheese and 2 tablespoons sauerkraut. Distribute a portion of meat on top of kraut on each sandwich, pressing to make an even layer and covering edges. Place on rack of broiler pan and broil 3 inches from the heat until browned, approximately 8 minutes. Top with remaining bread slices, dressing side down. Serve at once. Yield: 8 sandwiches.

#### Tomato Cucumber Relish

An easy relish can be made to serve on hamburger by combining:

1/4 cup vinegar  
1/4 cup water  
2 tablespoons sugar  
1 teaspoon salt  
1/2 cup black pepper to taste  
Add 1 medium tomato chopped  
1/2 unpeeled cucumber thinly sliced  
1 medium onion chopped  
Cover. Chill one hour or more. Drain well.

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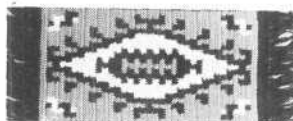
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